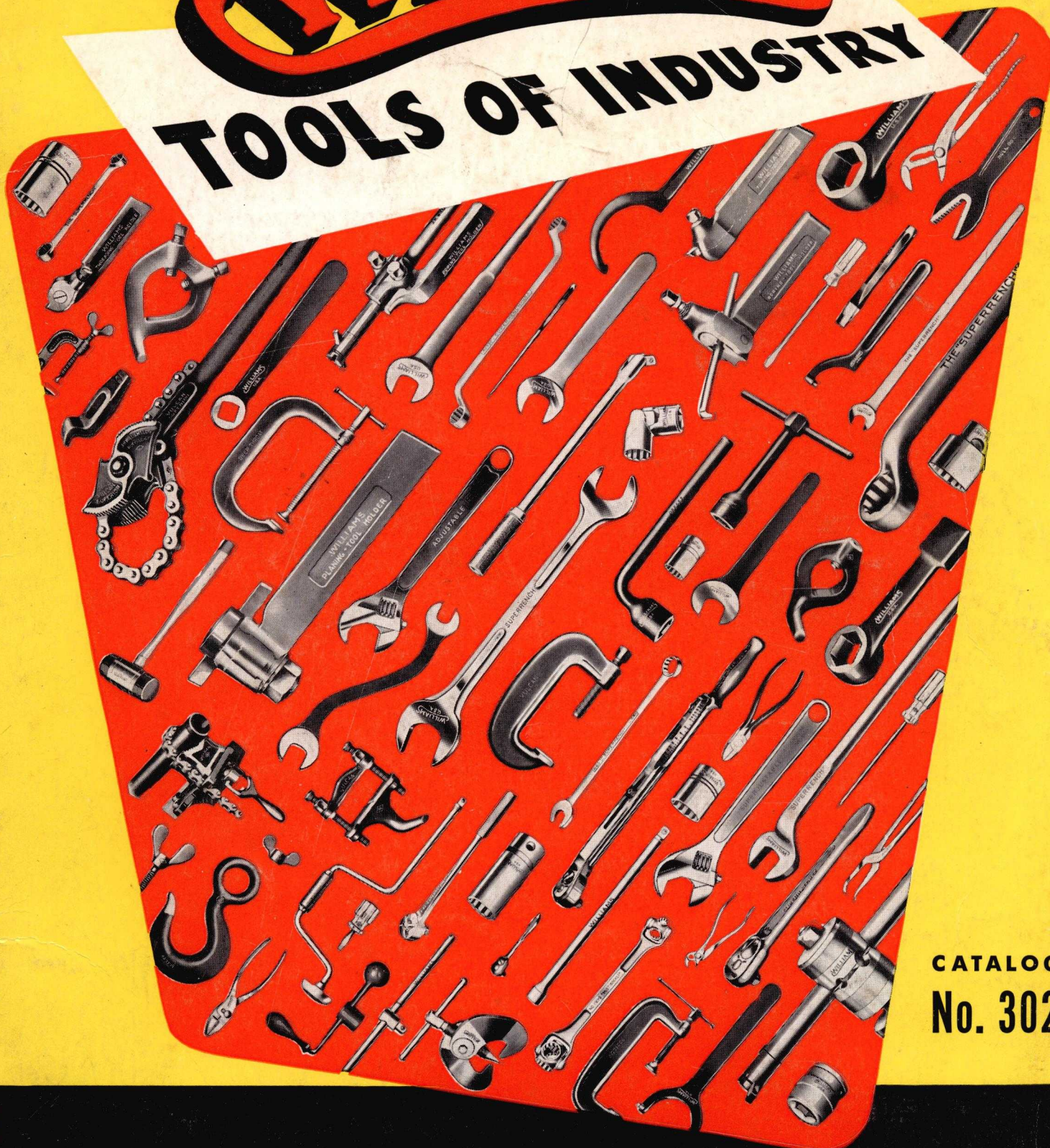


# **WILLIAMS**

## **TOOLS OF INDUSTRY**



**CATALOG  
No. 302**

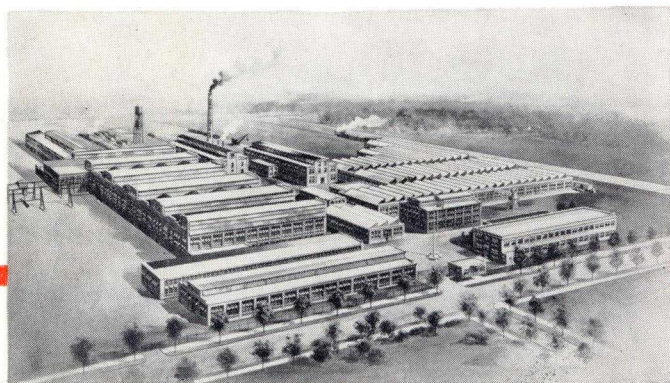
### **THE BROADEST LINE OF ITS KIND**

**J. H. WILLIAMS & CO., BUFFALO 7, NEW YORK**



# **WILLIAMS**

**INDUSTRIAL AND AUTOMOTIVE  
WRENCHES, TOOLS AND DROP-FORGINGS**



**J. H. WILLIAMS & CO.**

ESTABLISHED 1882

INCORPORATED JULY 1, 1895

GENERAL OFFICES AND FACTORY  
400 VULCAN STREET                      BUFFALO 7, NEW YORK

DISTRICT SALES OFFICE  
Woolworth Bldg., 233 Broadway, New York 7, N. Y.

DISTRICT SALES OFFICES AND WAREHOUSES  
117 North Jefferson Street, Chicago 6, Ill.  
2266 East 38th Street, Los Angeles 58, Calif.





## CATALOG No. 302

**NOTICE - Finishes, materials and designs are subject to change without notice or regard to catalog descriptions.**

### Industrial Edition

Industrial Catalogs 202 and 302 supersede all previous issues, which are hereby withdrawn. All Prices are subject to change without notice.

### Cuts Illustrating Our Goods

Furnished to customers; if desired, we will edit copy for printer and check proof.

### Dimensions

Unless otherwise stated, all dimensions are in inches.

### Electric Welding

We are prepared to electric-weld rounds up to and including 1 1/8 inch diameter; by this means we can supply several of our stock specialties, such as Rod Ends, with shanks of any reasonable length.

### Heat-treating, Annealing, Tempering and Case-hardening Done to Order

We have ample facilities for handling work of this class and solicit inquiries therefor.

### Chemical Analyses and Physical Tests

Our laboratories are thoroughly equipped and we offer their services for such analyzing as may be required.

### Estimates for Special Forgings

Furnished on receipt of model or drawing and specifications, including quantity.

### Dies for Special Forgings

Charges for Dies and Tools include only a portion of their cost. We assume the risk of breakage and the expense of repair and maintenance. Tools are fitted to our equipment and are not subject to surrender. When inactive for three years after date of last order, they may be discarded at our option, without further notice.

### Guarantee

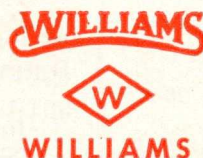
We guarantee all our product, whether Standard Stock goods, as described in this catalog, or Special Forgings made to order, to be free from imperfections of workmanship and material.

### Cable Address, "WILLRICH, BUFFALO NY"

Codes: Western Union, Lieber's Standard, Lieber's 5 Letter, "ABC" 5th Edition, Bentley's.

We are the sole makers of the following brands of drop-forged products:

**VULCAN  
SUPERRENCH  
SUPERSOCKET**



**AGRIPPA  
SUPERECTOR  
SUPERJUSTABLE**

J. H. Williams & Co., originated the first uniform line of 15° angle Wrenches, since generally adopted.



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## WILLIAMS' ENGINEERS' WRENCHES

Carbon Steel—15° Angle, Single Head



Milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright. Wrenches No. 11 and larger have tapered handle. Handles can be bent above heads at angles of 45° to 90° from opening, at an additional charge. Whitworth and Metric sizes available; see Catalog A-535.

The following Wrenches have hole of diameter given below in end of handle:

No. 17 17A 18 18A 19 19A 19B 19C 20 20A 20B 21A 21B 21C 22A 22B  
Hole  $\frac{5}{8}$   $\frac{5}{8}$   $\frac{3}{4}$   $\frac{3}{4}$   $\frac{7}{8}$   $\frac{7}{8}$   $\frac{7}{8}$   $\frac{7}{8}$  1 1 1  $1\frac{1}{8}$   $1\frac{1}{8}$   $1\frac{1}{8}$   $1\frac{1}{4}$   $1\frac{1}{4}$ "

MILITARY DESCRIPTION: GGG-W-636, TYPE V, CLASS B  
41W10, TYPE A, CLASS I

No.	Nominal Opening	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Std. Pkg.
S 000	3/16				*Nos. 2 & 3	2 1/2	6
S 00	1/4				*No. 4	2 7/8	6
00	5/16	1/8	1/8		*Nos. 5 & 6	3 5/8	6
700	3/8		3/16		*No. 10	4 1/8	6
0	13/32	3/16				4 1/8	6
701	7/16		1/4	1/4	1/4 & *No. 12	4 3/4	6
1	1/2	1/4	5/16	5/16		4 3/4	6
702	9/16		3/8	3/8	5/16	5 5/8	6
2	19/32	5/16				5 5/8	6
703	5/8		7/16	7/16	3/8	6 1/2	6
3	11/16	3/8				6 1/2	6
704	3/4		1/2	1/2	7/16	7 3/8	6
4	25/32	7/16				7 3/8	6
705	13/16		9/16		1/2	8 3/8	6
5	7/8	1/2	5/8	9/16	9/16	8 3/8	6
6	15/16	9/16		5/8		9 1/2	6
706	1		3/4		5/8	9 1/2	6
7	1 1/16	5/8		3/4		10 3/4	6
707	1 1/8		7/8		3/4	10 3/4	6
8	1 1/4	3/4	(†1)	7/8		12 1/4	6
8A	1 5/16		1	7/8		12 1/4	6
708A	1 3/8		(†1 1/8)			12 1/4	6
9	1 7/16	7/8		1		13 7/8	6
709	1 1/2		1 1/8 (†1 1/4)		1	13 7/8	6
10	1 5/8	1		1 1/8		15 1/2	1
10A	1 11/16		1 1/4		1 1/8	15 1/2	1
11	1 13/16	1 1/8		1 1/4		17 1/8	1
11A	1 7/8			1 1/4		17 1/8	1
12	2	1 1/4		1 3/8		18 7/8	1
12A	2 1/16			1 3/8		18 7/8	1
13	2 3/16	1 3/8		1 1/2		20 3/4	1
13A	2 1/4			1 1/2		20 3/4	1
14	2 3/8	1 1/2				22 3/4	1
14A	2 7/16			1 5/8		22 3/4	1
15	2 9/16	1 5/8				24	1
15A	2 5/8			1 3/4		24	1
16	2 3/4	1 3/4				27	1
16B	2 13/16			1 7/8		27	1
16A	2 15/16	1 7/8				27	1
17A	3			2		30	1
17	3 1/8	2				30	1
18A	3 3/8			2 1/4		34	1
18	3 1/2	2 1/4				34	1
19B	3 3/4			2 1/2		38	1
19	3 7/8	2 1/2				38	1
19C	4 1/8			2 3/4		38	1
19A	4 1/4	2 3/4				38	1
20B	4 1/2			3		42	1
20	4 5/8	3				42	1
20A	5	3 1/4				42	1
21A	5 3/8	3 1/2				47	1
21B	5 3/4	3 3/4				47	1
21C	6 1/8	4				47	1
22A	6 7/8	4 1/2				52	1
22B	7 5/8	5				52	1

† Old style cap screw—now obsolete.

\* Amer. Std. Machine-Screw and Stove-Bolt Nuts.

## WILLIAMS' ENGINEERS' WRENCHES

Carbon Steel—15° Angle, Double Head



Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright. Whitworth and Metric sizes available; see Catalog A-535.

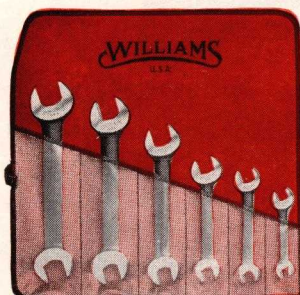
MILITARY DESCRIPTION: GGG-W-636, TYPE IV, STYLE I, CLASS B  
41W10, TYPE B, CLASS I

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.); Size Bolts	Amer. Std. Hex. Hd. Cap Screws; Diam. Ser's	Amer. Std. Light Nuts (S.A.E.); Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Extreme Length, Approx.	Std. Pkg.
721	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$	$\frac{1}{8}$ & $\frac{3}{16}$		4 $\frac{1}{8}$	6	
21	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$			4 $\frac{1}{8}$	6	
722	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	4 $\frac{1}{8}$	6	
723	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	4 $\frac{1}{8}$	6	
723A	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	4 $\frac{1}{8}$	6	
23	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$		4 $\frac{7}{8}$	6	
24	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$		5 $\frac{1}{4}$	6	
725	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{1}{4}$	6	
725A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{1}{4}$	6	
725B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{3}{4}$	6	
25	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	5 $\frac{3}{4}$	6	
726	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{1}{4}$	6	
26	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{1}{4}$	6	
727	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{1}{4}$	6	
27C	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{1}{2}$	6	
27	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{3}{4}$	6	
727B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	6 $\frac{3}{4}$	6	
27B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{1}{4}$	6	
728	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{1}{4}$	6	
28	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{1}{4}$	6	
28S	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{1}{4}$	6	
729	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{1}{4}$	6	
29B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{7}{8}$	6	
29	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	7 $\frac{7}{8}$	6	
29C	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	8 $\frac{1}{2}$	6	
730	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	8 $\frac{1}{2}$	6	
30	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	9 $\frac{1}{8}$	6	
731	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	9 $\frac{1}{8}$	6	
731A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	9 $\frac{1}{8}$	6	
31B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	9 $\frac{1}{8}$	6	
31	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	9 $\frac{1}{8}$	6	
731B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	10	6	
32B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	10	6	
33A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	10	6	
733	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	10	6	
33C	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	11	6	
34	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	11	6	
34A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	11	6	
35	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	11	6	
735	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	12 $\frac{3}{8}$	6	
36B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	12 $\frac{3}{8}$	6	
37	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	12 $\frac{3}{8}$	6	
737	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	12 $\frac{3}{8}$	6	
37A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	14	6	
39B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	14	6	
39	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	14	6	
39A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	14	6	
39C	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	15 $\frac{3}{4}$	1	
40	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	15 $\frac{3}{4}$	1	
41	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	17	1	
41B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	17	1	
42	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	17	1	
42A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	19	1	
43	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	19	1	
44	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	19	1	
44A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	21	1	
45	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	21	1	
45A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	23	1	
47	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	23	1	
47B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	25	1	
48	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	27	1	
49	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	30	1	
49A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	32	1	
51	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	32	1	
51A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	36	1	
53	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	36	1	
53A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	38	1	
54C	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	38	1	
55A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	40	1	
55B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	40	1	
57B	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	43	1	
57	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	43	1	
58A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	47	-1	
58	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	47		
60A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			
60	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			
62A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			
62	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			
63A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			
64A	$\frac{13}{32}$ & $\frac{5}{16}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$			



## WILLIAMS' ENGINEERS' WRENCHES

Carbon Steel—15° Angle, Double Head



## SET No. 25A

In Leatherette Roll  
In Cardboard Box

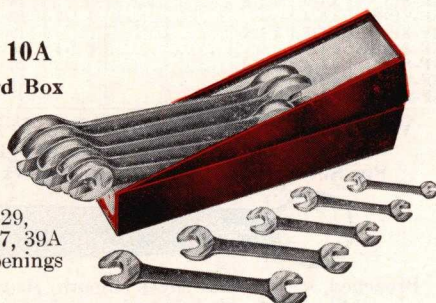
## CONTENTS

One each Nos. 723, 25, 727,  
29, 731A and 33C with all  
popular openings 3/8" to 1".

## SET No. 10A

In Cardboard Box

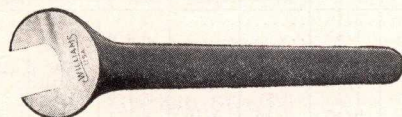
## CONTENTS

One each Nos.  
723, 25, 727, 29,  
731, 33A, 735, 37, 39A  
and 39C with openings  
3/8" to 1-1/2".

## WILLIAMS' CHECK NUT (THIN) WRENCHES

Carbon Steel—15° Angle, Single Head

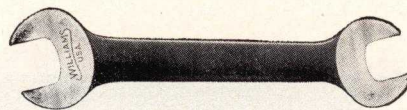
For Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service. These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright. Whitworth and Metric sizes available; see Catalog A-535.

No.	Nominal Opening	Amer. Std. Heavy Jam Nut (U.S.S.); Size Bolt	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Jam Nut; Size Bolt	Extreme Length, Approx.	Thick- ness Head	Std. Pkg.
601A	7/16	.....	1/4	1/4	4	5/32	6
601	1/2	.....	5/16	.....	4	5/32	6
602A	9/16	.....	3/8	5/16	4 1/2	11/64	6
602	19/32	.....	5/16	.....	4 1/2	11/64	6
603A	5/8	.....	7/16	3/8	5 1/8	3/16	6
603	11/16	.....	3/8	.....	5 1/8	3/16	6
604A	3/4	.....	1/2	7/16	5 7/8	7/32	6
604	25/32	.....	7/16	.....	5 7/8	7/32	6
605A	13/16	.....	.....	1/2	6 5/8	1/4	6
605	7/8	.....	9/16	9/16	6 5/8	1/4	6
606	15/16	.....	5/8	.....	7 1/2	9/32	6
606B	1	.....	5/8	5/8	7 1/2	9/32	6
607	1 1/16	.....	3/4	.....	8 1/2	5/16	6
607A	1 1/8	.....	.....	3/4	8 1/2	5/16	6
608	1 1/4	.....	7/8	.....	10	3/8	6
608A	1 5/16	.....	.....	7/8	10	3/8	6
609	1 7/16	.....	1	.....	11 5/8	7/16	6
609A	1 1/2	.....	.....	1	11 5/8	7/16	6
610	1 5/8	.....	1 1/8	.....	13 1/4	1/2	6
610A	1 11/16	.....	.....	1 1/8	13 1/4	1/2	6

## WILLIAMS' CHECK NUT (THIN) WRENCHES

Carbon Steel—15° Angle, Double Head  
For Check, Jam, or Lock Nuts, etc.

For description, see opposite column. Whitworth and Metric sizes available; see Catalog A-535.

No.	Nominal Openings	Amer. Std. Heavy Jam Nut (U.S.S.); Size Bolts	Amer. Std. Light Nut (S.A.E.); Size Bolts	Amer. Std. Regular Jam Nut; Size Bolts	Extreme Length, Approx.	Thick- ness Heads	Std. Pkg.
623	15/32 & 1/2	3/16 & 1/4	.....	.....	4 5/8	5/32	6
623D	7/16 & 1/2	1/4 & 5/16	1/4 & 5/16	1/4 & 5/16	4 5/8	5/32	6
624A	7/16 & 1/2	1/4 & 5/16	1/4 & 5/16	1/4 & 5/16	4 5/8	5/32	6
624B	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
625	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
626S	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
627	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
627D	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
629	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
630	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
630B	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
630E	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
631	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
631A	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
632C	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
634A	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
634	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
632X	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
634B	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
635D	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
637	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
637A	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
639	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
640	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6
640A	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	4 5/8	5/32	6

## WILLIAMS' HEX-BOX WRENCHES

Carbon Steel—Heavy Pattern—15° Angle



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. H809 have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening Across Flats	Amer. Std. Hex Heavy Nut (U.S.S.)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (S.A.E.)	Amer. Std. Reglr. Nut	Ex- treme Length, Approx.	Head		Std. Pkg.
							Thick- ness	Out- side Diam.	
H808	1 1/4	3/4	.....	7/8	.....	11 1/2	13/16	2 1/16	1
H808A	1 5/16	.....	1	.....	7/8	11 1/2	13/16	2 1/16	1
H809	1 7/16	7/8	.....	1	.....	13 3/8	15/16	2 3/8	1
H809A	1 1/2	1 1/8	.....	1	.....	13 3/8	15/16	2 3/8	1
H810	1 5/8	1	.....	1 1/8	.....	15 1/4	1 1/8	2 5/8	1
H810A	1 11/16	1 1/4	.....	1 1/8	.....	15 1/4	1 1/8	2 5/8	1
H811	1 13/16	1 1/8	.....	1 1/4	.....	17	1 1/4	2 15/16	1
H811A	1 7/8	.....	.....	1 1/4	.....	17	1 1/4	2 15/16	1
H812	2	1 1/4	.....	1 3/8	.....	19	1 3/8	3 1/4	1
H813	2 3/16	1 3/8	.....	1 1/2	.....	21	1 1/2	3 1/2	1
H813A	2 1/4	.....	.....	1 1/2	.....	21	1 1/2	3 1/2	1
H814	2 3/8	1 1/2	.....	.....	.....	23	1 5/8	3 3/4	1
H815	2 9/16	1 5/8	.....	.....	.....	25	1 3/4	4 1/8	1
H815A	2 5/8	.....	.....	1 3/4	.....	25	1 3/4	4 1/8	1
H816	2 3/4	1 3/4	.....	.....	.....	27	1 7/8	4 9/16	1
H817A	3	.....	.....	2	.....	30	2	4 13/16	1
H817	3 1/8	2	.....	.....	.....	30	2	4 13/16	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' HEX-BOX WRENCHES

Carbon Steel—REGULAR PATTERN—15° Angle



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. 810 have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge. Whitworth Standard sizes available; see Catalog A-535.

The following long Wrenches have hole of size given below in end of handle:

No. 817 817A 818 818A 819 819A 819AC 819B 820 820B  
Hole  $\frac{5}{8}$   $\frac{5}{8}$   $\frac{3}{4}$   $\frac{3}{4}$   $\frac{7}{8}$   $\frac{7}{8}$   $\frac{7}{8}$   $\frac{7}{8}$  1 1"

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut	Ex-treme Length, Approx.	Head		Std. Pkg.
							Thick-ness	Out-side Diam.	
800	13/32	3/16	3/16			3 1/2	7/32	45/64	6
801A	7/16			1/4	1/4	4	17/64	27/32	6
801	1/2	1/4	5/16			4	17/64	27/32	6
802A	9/16		3/8	3/8	5/16	4 7/8	5/16	61/64	6
802	19/32	5/16				4 7/8	5/16	61/64	6
803A	5/8		7/16	7/16	3/8	5 7/8	23/64	1 3/32	6
803	11/16	3/8				5 7/8	23/64	1 3/32	6
804A	3/4		1/2	1/2	7/16	6 7/8	13/32	1 1/4	6
804	25/32	7/16				6 7/8	13/32	1 1/4	6
805A	13/16		9/16		1/2	7 3/4	29/64	1 23/64	6
805	7/8	1/2	5/8	9/16	9/16	7 3/4	29/64	1 23/64	6
806	15/16	9/16		5/8		8 3/4	1/2	1 35/64	6
806B	1		3/4		5/8	8 3/4	1/2	1 35/64	6
807	1 1/16	5/8		3/4		9 7/8	9/16	1 25/32	6
807A	1 1/8		7/8		3/4	9 7/8	9/16	1 25/32	6
808	1 1/4	3/4		7/8		11 1/2	9/16	2 1/16	6
808A	1 5/16		1		7/8	11 1/2	9/16	2 1/16	6
809	1 7/16	7/8		1		13 3/8	21/32	2 3/8	6
809A	1 1/2		1 1/8		1	13 3/8	21/32	2 3/8	6
810	1 5/8	1		1 1/8		15 1/4	3/4	2 5/8	1
810A	1 11/16		1 1/4		1 1/8	15 1/4	3/4	2 5/8	1
811	1 13/16	1 1/8		1 1/4		17 1/8	13/16	2 29/32	1
811A	1 7/8			1 1/4		17 1/8	13/16	2 29/32	1
812	2	1 1/4		1 3/8		19	15/16	3 1/4	1
813	2 3/16	1 3/8		1 1/2		21	1	3 31/64	1
813A	2 1/4			1 1/2		21	1	3 31/64	1
814	2 3/8	1 1/2				23	1 1/16	3 23/32	1
815	2 9/16	1 5/8				25	1 1/8	4 3/32	1
815A	2 5/8				1 3/4	25	1 1/8	4 3/32	1
816	2 3/4	1 3/4				27	1 1/4	4 9/16	1
817A	3				2	30	1 3/8	4 53/64	1
817	3 1/8	2				30	1 3/8	4 53/64	1
818A	3 3/8				2 1/4	34	1 1/2	5 1/4	1
818	3 1/2	2 1/4				34	1 1/2	5 1/4	1
819B	3 3/4				2 1/2	38	1 5/8	5 7/8	1
819	3 7/8	2 1/2				38	1 5/8	5 7/8	1
819AC	4 1/8				2 3/4	42	1 3/4	6 1/2	1
819A	4 1/4	2 3/4				42	1 3/4	6 1/2	1
820B	4 1/2				3	46	1 7/8	7	1
820	4 5/8	3				46	1 7/8	7	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## WILLIAMS' HEX-BOX WRENCHES

Carbon Steel—STRIKING FACE PATTERN—15° Angle



Designed for heavy work in close quarters where large nuts must be set up tight, or frozen nuts loosened. Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

MILITARY DESCRIPTION:  
MIL-W-15751A, TYPE XIII, STYLE B, SLUGGING WRENCH, LONG LENGTH

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut	Ex- treme Lgth. Aprx.	Head		Std. Pkg.
							Thick- ness	Out- side Dia.	
SF-818A	3 3/8				2 1/4	18	1 1/2	5 1/4	1
SF-818	3 1/2	2 1/4				18	1 1/2	5 1/4	1
SF-819B	3 3/4				2 1/2	19	1 5/8	5 7/8	1
SF-819	3 7/8	2 1/2				19	1 5/8	5 7/8	1
SF-819AC	4 1/8				2 3/4	20	1 3/4	6 1/2	1
SF-819A	4 1/4	2 3/4				20	1 3/4	6 1/2	1
SF-820B	4 1/2				3	21	1 7/8	7	1
SF-820	4 5/8	3				21	1 7/8	7	1

## WILLIAMS' SQUARE-BOX WRENCHES

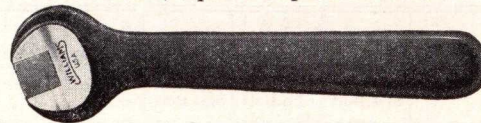
Carbon Steel—22½° Angle, Single Head  
For Set Screws, Square Cap Screws and Nuts

Broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright. Can also be furnished, to order, with 8-point openings.

MILITARY DESCRIPTION:  
MIL-W-15751A, TYPE IX B, 8 POINT, BOX, SET SCREW, SINGLE HEAD 22½°  
GGG-W-00636, TYPE VIII, CLASS 2, 8 POINT, BOX, SET SCREW, S.H. 22½°

No.	Nominal Opening	For Set Screw; Size	For Square Head Cap Screw	Amer. Std. Regl. Square Nut	Ex-treme Length, Approx.	Head		Std. Pkg.
						Thick-ness	Out-side Diam.	
580	3/16	3/16			3	1/4	1/2	6
581	1/4	1/4			3 3/8	9/32	5/8	6
582	5/16	5/16			3 3/4	5/16	11/16	6
583	3/8	3/8	1/4		4 1/4	3/8	27/32	6
584	7/16	7/16	5/16	1/4	4 7/8	7/16	31/32	6
585	1/2	1/2	3/8		5 1/2	15/32	1 1/16	6
586	9/16	9/16	7/16	5/16	6 1/4	1/2	1 3/16	6
587	5/8	5/8	1/2	3/8	7	9/16	1 5/16	6
588	3/4	3/4	5/8	7/16	8	5/8	1 9/16	6
589	7/8	7/8	3/4	9/16	9	11/16	1 25/32	6
590	1	1		5/8	10	3/4	2	6

## WILLIAMS' SET SCREW WRENCHES

Carbon Steel—22½° Angle, Single Head  
For Set Screws, Square Cap Screws and Nuts

Milled, surface and edges smooth, sizes stamped on heads, hardened, black enameled (baked on)—heads bright.

MILITARY DESCRIPTION:  
MIL-W-15751A, TYPE IX A, OPEN END, SINGLE HEAD 22½°  
GGG-W-00636, TYPE VIII, CLASS 1, OPEN END, SINGLE HEAD 22½°

No.	Nominal Opening	For Set Screw; Size	For Square Head Cap Screw	Amer. Std. Regular Square Nut	Ex-treme Length, Approx.	Thick-ness Head	Std. Pkg.
500	3/16	3/16			3	3/16	6
501	1/4	1/4			3 1/2	1/4	6
502	5/16	5/16			4 1/4	5/16	6
503	3/8	3/8	1/4		5	11/32	6
504	7/16	7/16	5/16	1/4	5 3/4	3/8	6
505	1/2	1/2	3/8		6 5/8	7/16	6
506	9/16	9/16	7/16	5/16	7 1/2	1/2	6
507	5/8	5/8	1/2	3/8	8 1/2	9/16	6
508	3/4	3/4	5/8	7/16	9 1/2	5/8	6
509	7/8	7/8	3/4	9/16	10 1/2	11/16	6
510	1	1		5/8	11 1/2	3/4	6
511	1 1/8	1 1/8	7/8	3/4	12 1/2	13/16	6



## WILLIAMS' SET SCREW WRENCHES

Carbon Steel—22½° Angle, Double Head  
For Set Screws, Square Cap Screws and Nuts



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

**MILITARY DESCRIPTION:**  
MIL-W-15751A, TYPE VIII, SET SCREW WR., DBL. HEAD, OPEN END, 22½°  
GGG-W-00636, TYPE VII, SET SCREW, WR., DOUBLE HEAD, OPEN END, 22½°

No.	Nominal Openings	For Set Screws; Size	For Sq. Head Cap Screws; Diam. Screws	For Amer. Std. Regular Square Nuts	Ex-treme Length, Approx.	Thick-ness Heads	Std. Pkg.
523	3/16 & 1/4	3/16 & 1/4	3/16 & 1/4	3/16 & 1/4	3 1/2	7/32	6
524	3/16 & 5/16	3/16 & 5/16	3/16 & 5/16	3/16 & 5/16	4 1/4	9/32	6
525	1/4 & 5/16	1/4 & 5/16	1/4 & 5/16	1/4 & 5/16	4 1/4	9/32	6
526	1/4 & 3/8	1/4 & 3/8	1/4 & 3/8	1/4 & 3/8	5	11/32	6
527	5/16 & 3/8	5/16 & 3/8	5/16 & 3/8	5/16 & 3/8	5	11/32	6
529	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	5 3/4	3/8	6
530	3/8 & 1/2	3/8 & 1/2	3/8 & 1/2	3/8 & 1/2	6 5/8	7/16	6
531	1/2 & 1/2	1/2 & 1/2	1/2 & 1/2	1/2 & 1/2	6 5/8	7/16	6
533	1/2 & 9/16	1/2 & 9/16	1/2 & 9/16	1/2 & 9/16	7 1/2	1/2	6
534	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	1/2 & 5/8	8 1/2	5/8	6
535	5/8 & 3/4	5/8 & 3/4	5/8 & 3/4	5/8 & 3/4	8 1/2	5/8	6
537	5/8 & 3/4	5/8 & 3/4	5/8 & 3/4	5/8 & 3/4	9 3/4	5/8	6
539	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	11	11/16	6
541	7/8 & 1	7/8 & 1	7/8 & 1	7/8 & 1	12 1/2	3/4	6
543	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	14	1 1/8	6

## WILLIAMS' TOOL POST WRENCHES

Carbon Steel  
For Set Screws

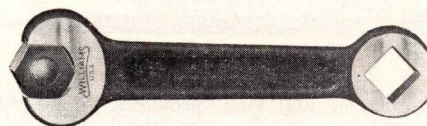


These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

No.	Open End for Set Screw; Size	Closed End for Set Screw; Size	Extreme Length, Approx.	Thickness Heads	Standard Package
554	7/16	7/16	5 1/2	1/2	6
555	1/2	1/2	6	9/16	6
555B	9/16	1/2	6	9/16	6
555C	9/16	9/16	6	9/16	6
556	5/8	5/8	7	5/8	6
556B	11/16	5/8	7	5/8	6
556C	11/16	11/16	7	5/8	6
557	3/4	3/4	7 5/8	11/16	6

## WILLIAMS' TOOL POST WRENCHES

Carbon Steel  
For Nuts and Set Screws



These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Whitworth Standard sizes available; see Catalog A-535.

No.	Open End Nominal Opening	Amer. Std. Heavy Nut (U.S.S.)	Amer. Std. Regular Nut Size Bolt	Closed End for Set Screw; Size	Ex-treme Length, Approx.	Thick-ness Heads	Std. Pkg.
562B	5/8	3/8	3/8	9/16	6 1/2	1/2	6
562	11/16	3/8	3/8	9/16	6 1/2	1/2	6
563E	13/16	1/2	1/2	7/16	7	9/16	6
563F	13/16	1/2	1/2	1/2	7	9/16	6
563G	13/16	1/2	1/2	9/16	7	9/16	6
563H	13/16	1/2	1/2	5/8	7	9/16	6
563	7/8	1/2	9/16	7/16	7	9/16	6
563B	7/8	1/2	9/16	1/2	7	9/16	6
563C	7/8	1/2	9/16	9/16	7	9/16	6
563D	7/8	1/2	9/16	5/8	7	9/16	6
564C	1	5/8	5/8	5/8	7 1/2	5/8	6
564	1 1/16	5/8	5/8	5/8	7 1/2	5/8	6
565C	1	5/8	5/8	3/4	8	5/8	6
565	1 1/16	5/8	5/8	3/4	8	5/8	6
566C	1 1/8	3/4	3/4	3/4	9 1/4	3/4	6
566D	1 1/8	3/4	3/4	7/8	9 1/4	3/4	6
566	1 1/4	3/4	3/4	3/4	9 1/4	3/4	6
566B	1 1/4	3/4	3/4	7/8	9 1/4	3/4	6
567D	1 1/8	3/4	3/4	1	10	7/8	6
567	1 1/4	3/4	3/4	1	10	7/8	6
567E	1 5/16	7/8	7/8	7/8	10	7/8	6
567F	1 5/16	7/8	7/8	1	10	7/8	6
567B	1 7/16	7/8	7/8	7/8	10	7/8	6
567C	1 7/16	7/8	7/8	1	10	7/8	6
568E	1 1/2	1	1	7/8	11	15/16	6
568F	1 1/2	1	1	7/8	11	15/16	6
568	1 5/8	1	1	7/8	11	15/16	6
568B	1 5/8	1	1	7/8	11	15/16	6
568G	1 11/16	1 1/8	1 1/8	1	11	15/16	6
568H	1 7/8	1 1/4	1 1/4	1	11	15/16	6
568C	1 13/16	1 1/8	1 1/8	1	11	15/16	6
568D	2	1 1/4	1 1/4	1	11	15/16	6

## WILLIAMS' HEAVY "S" or CAR WRENCHES

Carbon Steel—22½° Angle, Double Head



These Wrenches are milled, sizes stamped, hardened all over, shot-blasted—heads not bright.

No.	Nominal Openings	Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts	Amer. Std. REGULAR Nuts; Size Bolts	Ex-treme Length, Approx.	Std. Pkg.
367A	5/8 & 1 1/8	3/8 & 1/2	3/8 & 1/2	12	1
367	1 1/8 & 1 1/4	1/2 & 3/4	1/2 & 3/4	12	1
370C	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	19	1
370A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	19	1
370	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	19	1
370B	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	19	1
*372A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	20	1
373	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	20	1
376A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	21	1
376	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	21	1
*378A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	22	1
379	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	22	1
382A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	23	1
382	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	23	1
383B	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	24	1
385	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	24	1
389	2 & 2 3/8	1 1/4 & 1 1/2	1 1/4 & 1 1/2	25	1
389B	2 3/8 & 2 3/4	1 3/8 & 1 3/2	1 3/8 & 1 3/2	25	1

\* No. 372A supersedes Old No. 373 previously listed for 5/8 & 3/4" U.S. Nuts.

† No. 378A supersedes Old No. 379 previously listed for 7/8 & 1" U.S. Nuts.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' STRUCTURAL WRENCHES

Carbon Steel—Straight Opening



Jaws are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end.

Milled, sizes stamped, hardened all over and shot-blasted—heads not bright. Whitworth Std. sizes; see Catalog A-535.

MILITARY DESCRIPTION: GGG-W-636, TYPE IX  
41W10, TYPE K

No.	Nominal Opening	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Extreme Length, Approx.	Thick-ness Head	Handle Offset		Std. Pkg.
						At Head	At End	
901A	7/16	1/4	1/4	9 1/2	11/32	13/16	1 1/2	1
901	1/2	1/4	1/4	9 1/2	11/32	13/16	1 1/2	1
901B	9/16	5/16	5/16	9 1/2	11/32	13/16	1 1/2	1
902	19/32	5/16	5/16	9 1/2	11/32	13/16	1 1/2	1
903A	5/8	3/8	3/8	12	7/16	7/8	1 11/16	1
903	11/16	3/8	3/8	12	7/16	7/8	1 11/16	1
904A	3/4	7/16	7/16	12	7/16	7/8	1 11/16	1
904	25/32	7/16	7/16	12	7/16	7/8	1 11/16	1
905A	13/16	1/2	1/2	14 1/2	17/32	1	1 7/8	1
905	7/8	1/2	9/16	14 1/2	17/32	1	1 7/8	1
906	15/16	9/16	1/2	14 1/2	17/32	1	1 7/8	1
906B	1	5/8	5/8	14 1/2	17/32	1	1 7/8	1
907	1 1/16	5/8	3/4	17	5/8	1 1/8	2 3/8	1
907A	1 1/8	5/8	3/4	17	5/8	1 1/8	2 3/8	1
908	1 1/4	3/4	7/8	19	11/16	1 1/4	2 3/4	1
908A	1 5/16	7/8	7/8	19	11/16	1 1/4	2 3/4	1
909	1 7/16	7/8	7/8	21	3/4	1 3/8	3 1/16	1
909A	1 1/2	1	1	21	3/4	1 3/8	3 1/16	1
910	1 5/8	1	1 1/8	23	13/16	1 1/2	3 3/8	1
910A	1 11/16	1 1/8	1 1/8	23	13/16	1 1/2	3 3/8	1
911	1 13/16	1 1/8	1 1/8	25	7/8	1 5/8	3 11/16	1
911A	1 7/8	1 1/4	1 1/4	25	7/8	1 5/8	3 11/16	1
912	2	1 1/4	1 1/4	25	7/8	1 5/8	3 11/16	1

## WILLIAMS' CONSTRUCTION WRENCHES

Carbon Steel—15° Angle



Deep opening provides substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end. Milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

Whitworth Standard sizes available; see Catalog A-535.

No.	Nominal Opening	For Amer. Std. Heavy Nut (U.S.S.); Size Bolt	For Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Thick-ness Head	Std. Pkg.
201A	7/16	1/4	1/4	9 1/2	3/8	1
201	1/2	1/4	1/4	9 1/2	3/8	1
201B	9/16	5/16	5/16	9 1/2	3/8	1
202	19/32	5/16	5/16	9 1/2	3/8	1
203A	5/8	3/8	3/8	12	7/16	1
203	11/16	3/8	3/8	12	7/16	1
204A	3/4	7/16	7/16	12	7/16	1
204	25/32	7/16	7/16	12	7/16	1
205A	13/16	1/2	1/2	14 1/2	17/32	1
205	7/8	1/2	9/16	14 1/2	17/32	1
206	15/16	9/16	1/2	14 1/2	17/32	1
206B	1	5/8	5/8	14 1/2	17/32	1
207	1 1/16	5/8	3/4	17	5/8	1
207A	1 1/8	5/8	3/4	17	5/8	1
208	1 1/4	3/4	7/8	19	11/16	1
208A	1 5/16	7/8	7/8	19	11/16	1
209	1 7/16	7/8	7/8	21	3/4	1
209A	1 1/2	1	1	21	3/4	1
210	1 5/8	1	1 1/8	23	27/32	1
210A	1 11/16	1 1/8	1 1/8	23	27/32	1
211	1 13/16	1 1/8	1 1/8	25	15/16	1
211A	1 7/8	1 1/4	1 1/4	25	15/16	1
212	2	1 1/4	1 1/4	25	15/16	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## WILLIAMS' CONSTRUCTION WRENCHES

Carbon Steel—15° Angle—45° Bent Handle

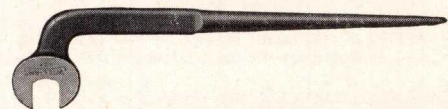


These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Wrenches are milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	For S.A.E. Std. Nut and Cap Screw	For Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Std. Pkg.
X-205A	13/16	1/2	9/16	1/2	14	1
X-205	7/8	1/2	9/16	9/16	14	1
X-206	15/16	9/16	5/8	14	14	1
X-206B	1	5/8	5/8	14	14	1
X-207	1 1/16	5/8	3/4	16 1/2	16 1/2	1
X-207A	1 1/8	5/8	3/4	16 1/2	16 1/2	1
X-208	1 1/4	3/4	7/8	18 1/2	18 1/2	1
X-208A	1 5/16	3/4	7/8	18 1/2	18 1/2	1
X-209	1 7/16	7/8	1	20 3/8	20 3/8	1
X-209A	1 1/2	7/8	1	20 3/8	20 3/8	1
X-210	1 5/8	1	1 1/8	22 1/4	22 1/4	1
X-210A	1 11/16	1 1/8	1 1/8	22 1/4	22 1/4	1
X-211	1 13/16	1 1/8	1 1/4	24	24	1
X-211A	1 7/8	1 1/4	1 1/4	24	24	1
X-212	2	1 1/4	1 3/8	24	24	1

## WILLIAMS' CONSTRUCTION WRENCHES

Carbon Steel—15° Angle—90° Bent Handle



Wrenches are milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	For S.A.E. Std. Nut and Cap Screw	For Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Std. Pkg.
Z-205A	13/16	1/2	9/16	1/2	12	1
Z-205	7/8	1/2	9/16	9/16	12	1
Z-206	15/16	9/16	5/8	12	12	1
Z-206B	1	5/8	5/8	12	12	1
Z-207	1 1/16	5/8	3/4	14 5/8	14 5/8	1
Z-207A	1 1/8	5/8	3/4	14 5/8	14 5/8	1
Z-208	1 1/4	3/4	7/8	16 3/8	16 3/8	1
Z-208A	1 5/16	3/4	7/8	16 3/8	16 3/8	1
Z-209	1 7/16	7/8	1	17 7/8	17 7/8	1
Z-209A	1 1/2	7/8	1	17 7/8	17 7/8	1
Z-210	1 5/8	1	1 1/8	19 1/2	19 1/2	1
Z-210A	1 11/16	1 1/8	1 1/8	19 1/2	19 1/2	1
Z-211	1 13/16	1 1/8	1 1/4	21	21	1
Z-211A	1 7/8	1 1/4	1 1/4	21	21	1
Z-212	2	1 1/4	1 3/8	21	21	1

## WILLIAMS' ADJUSTABLE FACE SPANNERS

Carbon Steel



A desirable and dependable tool for service where Center to Center dimensions vary. Pins milled, surfaces smooth, hardened, black enameled (baked on).

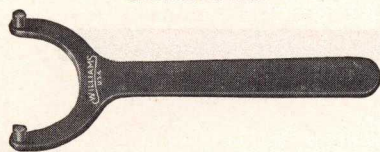
MILITARY DESCRIPTION:  
GGG-W-00665, TYPE III, CLASS 1, ADJUSTABLE FACE SPANNER

No.	Extreme Capacity	Extreme Length, Approx.	Diameter of Pins	Standard Package
482	2	6 3/8	3/16	6
483	3	8 1/4	1/4	6
484	4	10 3/8	5/16	6



### WILLIAMS' FACE SPANNERS

Carbon Steel



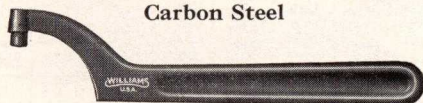
Pins are forged integral with wrench. Surfaces smoothed, pins milled, hardened all over and black enameled.

**MILITARY DESCRIPTION:**  
GGG-W-00665, TYPE III, CLASS 2, NON ADJUSTABLE FACE SPANNER

No.	Pins			Span of Jaws in Clear	Length from Center of Pins	Thick-ness	Std. Pkg.
	Distance C to C	Diam. Milled	Length				
418	1	3/16	3/16	11/16	4 1/2	3/16	6
420	1 1/4	7/32	7/32	7/8	5	3/16	6
422	1 1/2	7/32	7/32	1 1/8	5 1/2	3/16	6
424	1 3/4	7/32	7/32	1 3/8	6	7/32	6
426	2	1/4	1/4	1 19/32	6 1/2	7/32	6
428	2 1/4	1/4	1/4	1 27/32	7	7/32	6
430	2 1/2	9/32	9/32	2 1/32	7 1/2	1/4	6
432	2 3/4	9/32	9/32	2 9/32	8	1/4	6
434	3	5/16	5/16	2 1/2	8 1/2	1/4	6
436	3 1/4	5/16	5/16	2 3/4	9 1/8	1/4	6
438	3 1/2	5/16	5/16	3	9 3/4	1/4	6
440	3 3/4	3/8	3/8	3 3/16	10 3/8	1/4	6
442	4	3/8	3/8	3 7/16	11	1/4	6

### WILLIAMS' PIN SPANNERS

Carbon Steel



Pins are forged integral with wrench. Surfaces smoothed, pins milled, hardened all over and black enameled.

**MILITARY DESCRIPTION:**  
GGG-W-00665, TYPE II, PIN SPANNER

Number	For Circle; Diameter	Extreme Lgth. Approx.	Finished Diam. Pin	Standard Package
452	1	4	3/16	6
453	1 1/4	4 1/2	13/64	6
454	1 1/2	5	7/32	6
455	1 3/4	5 1/2	15/64	6
456	2	6	1/4	6
457	2 1/4	6 1/2	17/64	6
458	2 1/2	7	9/32	6
459	2 3/4	7 1/2	19/64	6
460	3	8	5/16	6
461	3 1/4	8 1/2	21/64	6
462	3 1/2	9	11/32	6
463	3 3/4	9 1/2	23/64	6
464	4	10	3/8	5
466	5	12	7/16	6
468	6	14	1/2	6

### WILLIAMS' HOOK SPANNERS

Carbon Steel



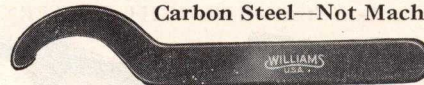
Made especially to service Face Plate Draw Nuts used on taper-nose spindles for new design lathes. Very efficient, also, for general work. Supplied with bearing pads and hook machined; hardened, black enameled (baked on).

\*Can be furnished to order for circle 1/8" larger.

No.	For Circle; Diameter	For Lathe Spindle No.	Extreme Length	Thickness, Hook End	Standard Package
410LS	4 15/32	00	13	5/16	1
412LS	5 1/2	0	15	7/32	1
414	* 7 3/8	1	20	5/8	1
415	* 9 1/4	2	23 1/4	11/16	1
416	*12 1/2	3	30 3/4	3/4	1

### WILLIAMS' FLAT HOOK SPANNERS

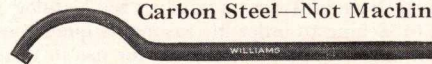
Carbon Steel—Not Machined



No.	For Circle; Diameter	For Circle; Diameter	Extreme Length, Approx.	Thick-ness	Standard Package
403	1 1/4	1 to 1 1/4	4 3/4	7/32	1
404	1 1/2	1 3/8 to 1 5/8	6	1/4	1
405	2	1 3/4 to 2	7 1/8	1/4	1
406	2 1/4	2 1/8 to 2 3/8	8 7/16	1/4	1
407	2 5/8	2 1/2 to 2 3/4	9 3/4	1/4	1
408	3 1/8	2 7/8 to 3 1/4	11	5/16	1
409	3 3/4	3 3/8 to 3 7/8	12	5/16	1
410	4 3/8	4 to 4 1/2	13	5/16	1
412	5 3/4	5 1/4 to 5 3/4	15	7/16	1

### WILLIAMS' LIGHT HOOK SPANNERS

Carbon Steel—Not Machined

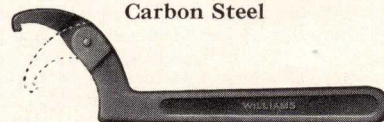


† Length of handle can be varied if desired.

No.	For Circle; Diameter	Extreme Length, Approx.	Hook			Diameter Handle	Std. Pkg.
			Length	Width	Thickness		
491	1 3/16	6 1/2	1/16	3/8	7/32	3/8	1
493	1 3/4	7 1/2	1/8	3/8	7/32	3/8	1
494	2 1/8	8	1/8	3/8	7/32	3/8	1
495	2 1/2	8 1/4	1/8	3/8	7/32	3/8	1
496	2 3/4	8 1/2	1/8	3/8	7/32	3/8	1
497	3	8 3/4	1/8	3/8	7/32	3/8	1
498	3 1/2	9	1/8	3/8	7/32	3/8	1

### WILLIAMS' ADJUSTABLE HOOK SPANNERS

Carbon Steel



Surfaces smoothed, black enameled (baked on); jaw hardened and tempered. Sold individually, or in Set No. 401. Especially serviceable on spindle bearings of lathes, milling machines and grinding machines.

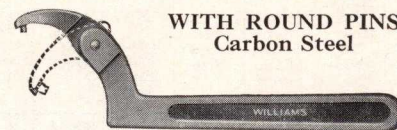
**SET No. 401—In Cardboard Box**  
Contains 1 each, Nos. 471, 472, 474 and 474A.

**MILITARY DESCRIPTION:**  
GGG-W-00665, TYPE I, ADJUSTABLE HOOK SPANNER

No.	Capacity for Circles; Diameter	Extreme Length, Approx.	Thickness		Depth Hook	Std. Pkg.
			Handle	Hook		
471	3/4 to 2	6 3/8	1/4	11/32	1/8	6
472	1 1/4 to 3	8 1/8	9/32	13/32	5/32	6
474	2 to 4 3/4	11 3/8	5/16	15/32	3/16	6
474A	4 1/2 to 6 1/4	12 1/8	5/16	15/32	1/4	6

### WILLIAMS' ADJUSTABLE HOOK SPANNERS

WITH ROUND PINS  
Carbon Steel



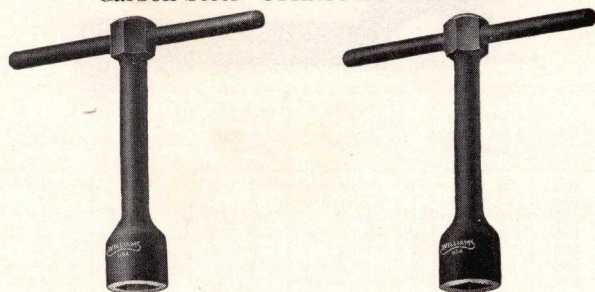
This adjustable type pin spanner is used for adjusting collars, lock nuts, rings, etc., used on various types of machine tool equipment. Surfaces smoothed, black enameled (baked on); alloy steel jaw hardened and tempered.

No.	Capacity for Circles; Diameter	Extreme Length, Approx.	Thickness		Pin Size		Std. Pkg.
			Handle	Hook	Diam.	Length	
O-471	3/4 to 2	6 3/8	1/4	11/32	1/8	1/8	6
O-471A	3/4 to 2	6 3/8	1/4	11/32	3/16	5/32	6
O-472	1 1/4 to 3	8 1/8	9/32	13/32	3/16	3/16	6
O-472A	1 1/4 to 3	8 1/8	9/32	13/32	1/4	7/32	6
O-474	2 to 4 3/4	11 3/8	5/16	15/32	1/4	1/4	6
O-474A	4 1/2 to 6 1/4	12 1/8	5/16	15/32	3/8	1/4	6



**WILLIAMS' SOCKET WRENCHES**

Carbon Steel—STRAIGHT PATTERN



HEXAGON OPENING

SQUARE OPENING

Broached, surface smooth, sizes stamped, hardened and black enameled (baked on)—faces bright.

Whitworth Standard sizes available; see Catalog A-535.

Special broaching to order in reasonable quantities.

Hexagon end of shank is designed for use in combination with another wrench or with removable Pin-Handle.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

**HEXAGON OPENINGS**

**MILITARY DESCRIPTION:**  
MIL-W-15838A, TYPE I, CLASS 3, STYLE B, TEE HANDLE WRENCH

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Cap Screw; Diam. Screw	Amer. Std. Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Std. Pkg.
961A	5/16	1/8				1/2	4 1/4	1
962D	3/8		3/16			5/8	4 1/2	1
963A	13/32	3/16				11/16	4 7/8	1
963D	7/16		1/4	1/4	1/4	11/16	4 7/8	1
964A	1/2	1/4	5/16	5/16		3/4	5 1/4	1
965D	9/16	3/8	3/8	3/8	5/16	7/8	5 3/4	1
965A	19/32	5/16				7/8	5 3/4	1
966D	5/8		7/16	7/16	3/8	1 1/8	6 1/8	1
967A	11/16	3/8				1 1/8	6 1/2	1
967D	3/4		1/2	1/2	7/16	1 1/8	6 1/2	1
968A	25/32	7/16				1 1/4	7	1
968D	13/16		9/16		1/2	1 1/4	7	1
969A	7/8	1/2	5/8	9/16	9/16	1 3/8	7 3/8	1
970S	15/16	9/16		5/8		1 1/2	7 7/8	1
970D	1		3/4		5/8	1 1/2	7 7/8	1
971A	1 1/16	5/8		3/4		1 5/8	8 1/4	1
971D	1 1/8		7/8		3/4	1 5/8	8 1/4	1
973A	1 1/4	3/4		7/8		1 7/8	9 1/8	1
973B	1 5/16		1		7/8	1 7/8	9 1/8	1
975A	1 7/16	7/8		1		2 1/8	10	1
975D	1 1/2		1 1/8		1	2 1/8	10	1
976A	1 5/8	1		1 1/8		2 3/8	10 3/8	1
976B	1 11/16		1 1/4		1 1/8	2 3/8	10 3/8	1
977A	1 13/16	1 1/8		1 1/4		2 5/8	10 7/8	1
977B	1 7/8			1 1/4		2 5/8	10 7/8	1
978A	2	1 1/4		1 3/8		2 7/8	11 3/8	1
979A	2 3/16	1 3/8		1 1/2		3	11 7/8	1
979B	2 1/4			1 1/2		3	11 7/8	1
980A	2 3/8	1 1/2				3 5/16	12 1/2	1

**SQUARE OPENINGS**

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Std. Pkg.
961H	3/16			3/16		1/2	4 1/4	1
961J	1/4			1/4		1/2	4 1/2	1
962H	5/16			5/16		5/8	4 1/2	1
963H	3/8		1/4	3/8		11/16	4 7/8	1
965H	7/16		5/16	7/16	1/4	7/8	5 3/4	1
966H	1/2	1/4	3/8	1/2		1	6 1/8	1
967H	9/16		7/16	9/16	5/16	1 1/8	6 1/2	1
968H	5/8		1/2	5/8	3/8	1 1/4	7	1
968P	11/16	3/8	9/16			1 1/4	7	1
969H	3/4		5/8	3/4	7/16	1 3/8	7 3/8	1
971H	7/8	1/2	3/4	7/8	9/16	1 5/8	8 1/4	1
973H	1			1	5/8	1 7/8	9 1/8	1
974H	1 1/8		7/8	1 1/8	3/4	2	9 1/2	1
976H	1 1/4	3/4	1	1 1/4		2 3/8	10 3/8	1
977X	1 7/16	7/8				2 5/8	10 7/8	1
977P	1 1/2		1 1/4	1 1/2	1	2 5/8	10 7/8	1

**WILLIAMS' OFFSET SOCKET WRENCHES**

Carbon Steel



HEXAGON OPENING

SQUARE OPENING

These Wrenches are broached, surface smooth, sizes stamped, hardened and black enameled—faces bright.

Whitworth Standard sizes available; see Catalog A-535.

Special broaching to order in reasonable quantities.

These Offset Socket Wrenches, of shorter or longer lengths than stated in table, can be furnished to order in quantities.

**HEXAGON OPENINGS**

**MILITARY DESCRIPTION:**  
MIL-W-15838A, TYPE I, CLASS 3

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Handle Offset in Clear from Face of Wrench	Std. Pkg.
261A	5/16	1/8				1/2	3 3/8	13/16	6
262D	3/8		3/16			5/8	3 7/8	1	6
263A	13/32	3/16				11/16	4 5/16	1 1/16	6
263D	7/16		1/4	1/4	1/4	11/16	4 5/16	1 1/16	6
264A	1/2	1/4	5/16	5/16		3/4	5 1/8	1 1/4	6
265D	9/16	3/8	3/8	3/8	5/16	7/8	5 7/8	1 7/16	6
265A	19/32	5/16				7/8	5 7/8	1 7/16	6
266D	5/8		7/16	7/16	3/8	1	6 1/4	1 9/16	6
267A	11/16	3/8				1 1/8	6 3/4	1 5/8	6
267D	3/4		1/2	1/2	7/16	1 1/8	6 3/4	1 5/8	6
268A	25/32	7/16				1 1/4	7 1/2	1 13/16	6
268D	13/16		9/16		1/2	1 1/4	7 1/2	1 13/16	6
269A	7/8	1/2	5/8	9/16	9/16	1 3/8	8 3/8	2	6
270S	15/16	9/16		5/8		1 1/2	9 1/8	2 3/16	6
270D	1		3/4		5/8	1 1/2	9 1/8	2 3/16	6
271A	1 1/16	5/8		3/4		1 5/8	10	2 3/8	6
271D	1 1/8		7/8		3/4	1 5/8	10	2 3/8	6
273A	1 1/4	3/4		7/8		1 7/8	11 5/8	2 3/4	6
273B	1 5/16		1		7/8	1 7/8	11 5/8	2 3/4	6
275A	1 7/16	7/8		1		2 1/8	13 1/4	3 1/8	1
275D	1 1/2		1 1/8		1	2 1/8	13 1/4	3 1/8	1
276A	1 5/8	1		1 1/8		2 3/8	14 7/8	3 1/2	1
276B	1 11/16		1 1/4		1 1/8	2 3/8	14 7/8	3 1/2	1
277A	1 13/16	1 1/8		1 1/4		2 5/8	16 1/2	3 7/8	1
277B	1 7/8			1 1/4		2 5/8	16 1/2	3 7/8	1
278A	2	1 1/4		1 3/8		2 7/8	18 1/4	4 3/8	1
279A	2 3/16	1 3/8		1 1/2		3	20	4 7/8	1
279B	2 1/4			1 1/2		3	20	4 7/8	1
280A	2 3/8	1 1/2				3 5/16	21 3/4	5 3/8	1

**SQUARE OPENINGS**

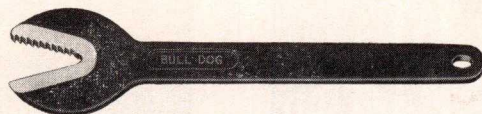
No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Handle Offset in Clear from Face of Wrench	Std. Pkg.
261J	1/4			1/4		1/2	3 3/8	13/16	6
262H	5/16			5/16		5/8	3 7/8	1	6
263H	3/8		1/4	3/8		11/16	4 5/16	1 1/16	6
265H	7/16		5/16	7/16	1/4	7/8	5 7/8	1 7/16	6
266H	1/2	1/4	3/8	1/2		1	6 1/4	1 9/16	6
267H	9/16		7/16	9/16	5/16	1 1/8	6 3/4	1 5/8	6
268H	5/8		1/2	5/8	3/8	1 1/4	7 1/2	1 13/16	6
268P	11/16	3/8	9/16			1 1/4	7 1/2	1 13/16	6
269H	3/4		5/8	3/4	7/16	1 3/8	8 3/8	2	6
271H	7/8	1/2	3/4	7/8	9/16	1 5/8	10	2 3/8	6
273H	1		1		5/8	1 7/8	11 5/8	2 3/4	1
274H	1 1/8		7/8		3/4	2	12 3/8	2 7/8	1
276H	1 1/4	3/4	1		1 1/4	2 3/8	14 7/8	3 1/2	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' "BULL DOG" WRENCHES

Carbon Steel



Nos. 2 to 5



No. 1



Twin

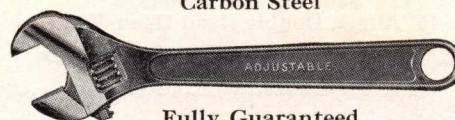
Designed for all-around service, these wrenches will grip round, square, hexagon or any shape that will fit between their tough jaws.

Drop-forged from a specially fine grade of steel and carefully tempered in oil, these wrenches are practically indestructible.

The handles of "Bull Dog" Nos. 2 and 2-1/2 are concave.

## "BULL DOG" WRENCHES

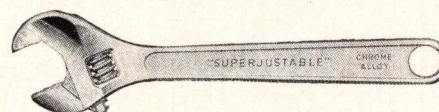
No.	Capacity		Extreme Length	Standard Package
	Pipe	Rounds		
1	1/8 to 3/8	1/4 to 3/4	5 1/2	1
2	1/4 to 3/4	1/2 to 1	9	1
2 1/2	3/8 to 1	5/8 to 1 1/4	12 1/2	1
3	1/2 to 1 1/4	3/4 to 1 1/2	16	1
3 1/2	1/2 to 1 1/2	3/4 to 1 3/4	18 3/4	1
4	3/4 to 2	1 to 2 1/4	22	1
4 1/2	1 to 2 1/2	1 1/4 to 2 3/4	24	1
5	2 to 3	2 1/4 to 3 1/2	27	1
Twin	1/8 to 3/4	5/16 to 1	10	6

WILLIAMS' ADJUSTABLE WRENCHES  
Carbon Steel

Fully Guaranteed

Drop-forged from specially strong, tough steel and accurately heat-treated in electric furnaces for uniform, dependable strength. Finish—shot-blasted, faces of heads polished bright. Packed, individually, in attractive cardboard box.

Size Inch	Capacity	Thickness Head		Std. Pkg.	Extra Parts—Std. Pkg.			
		Tip of Jaws	Extreme		Jaws	Knurls	Pins	Springs
4	1/2	9/64	5/16	1	12	12	12	12
6	3/4	7/32	3/8	1	12	12	12	12
8	15/16	17/64	1/2	1	12	12	12	12
10	1 1/8	23/64	19/32	1	12	12	12	12
12	1 5/16	15/32	23/32	1	12	12	12	12
15	1 3/4	19/32	31/32	1	6	6	6	6
18	2 1/16	23/32	1 3/16	1	3	3	3	3

WILLIAMS' SUPERJUSTABLE® WRENCHES  
Selected Alloy Steel

Fully Guaranteed

"Superjustable" Wrenches with thin, tapered jaws, are drop-forged from the finest grade of Selected Alloy Steel obtainable for the purpose.

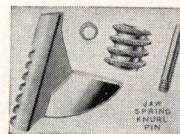
The exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw with maximum resistance to breakage.

Finished in chrome-plate over nickel, with highly polished face; the handle is in "satin" finish. Individually packed.

**MILITARY DESCRIPTION:**  
MIL-W-15674 A, TYPE I, OPEN END 22 1/2° HEAVY DUTY ADJUSTABLE  
GGG-W-631 A, TYPE I, OPEN END 22 1/2° HEAVY DUTY ADJUSTABLE

Size Inch	Capacity	Thickness Head		Std. Pkg.	Extra Parts—Std. Pkg.			
		Tip of Jaws	Extreme		Jaws	Knurls	Pins	Springs
4	1/2	9/64	5/16	1	12	12	12	12
6	3/4	7/32	3/8	1	12	12	12	12
8	15/16	17/64	1/2	1	12	12	12	12
10	1 1/8	23/64	19/32	1	12	12	12	12
12	1 5/16	15/32	23/32	1	12	12	12	12
15	1 3/4	19/32	31/32	1	6	6	6	6
18	2 1/16	23/32	1 3/16	1	3	3	3	3
24	2 7/16	7/8	1 3/8	1	1	1	1	1

## REPLACEMENT PARTS ASSORTMENT



When ordering, specify whether for Adjustable (Carbon Steel) or "Superjustable" (Selected Alloy Steel).

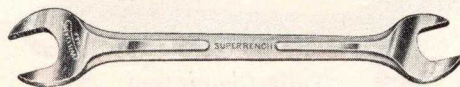
Packed in cardboard box with compartments containing 88 of the following parts:—

Size	Jaws	Knurls	Pins	Springs
4"	4	4	4	4
6"	6	6	6	6
8"	6	6	6	6
10"	4	4	4	4
12"	2	2	2	2



## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel  
15° Angle, Double Head Open-End



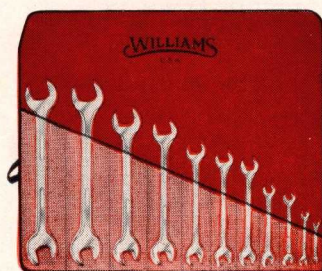
Slimmer heads, longer and narrower handles make these wrenches more serviceable where clearance is limited.

The selected alloy steel from which these "Superrenches" are drop-forged assures ample strength for the severest service. Finish is chrome-plate over nickel with faces polished bright. Whitworth and Metric sizes available; see Catalog A-535.

## MILITARY DESCRIPTION:

MIL-W-15751 A, TYPE V, STYLE B,  
ENGINEERS' THIN HEAD WR., DOUBLE SPEAR HEAD, OPEN END, 15°  
GGG-W-00636, TYPE IV  
ENGINEERS' WRENCH, DOUBLE HEAD, OPEN END, 15°

No.	Nominal Openings	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Hd. Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regular Nuts Size Bolts	Ex-treme Length	Thick-ness Heads	Std. Pkg.
1020	1/4 & 5/16	5/8	5/8			3 13/16	5/32	6
1720	1/4 & 11/16	1 1/8	1 1/8			4 1/4	5/16	6
1721	1/4 & 1 1/8	1 1/8	1 1/8			4 1/4	5/16	6
1021	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1723	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1023	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1723A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1725	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1725A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1725B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1025	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1727	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1027C	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1027	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1027B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1028	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1028S	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1729	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1029B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1029	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1029C	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1030	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1731	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1731A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1031B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1031	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1731B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1032B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1033A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1733	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1033C	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1034	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1034A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1035	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1735	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1036B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1037	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1737	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1037A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1039B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1039	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1039A	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1039C	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1040	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1041	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6
1041B	1/4 & 1 1/8	1 1/8	1 1/8			4 1/2	11/64	6



SET  
No. 1712A  
In  
Leatherette Roll  
In  
Cardboard Box  
11 Wrenches  
22 Different  
Openings

## CONTENTS

No.	Nominal Openings	No.	Nominal Openings
1020	1/4 & 5/16	1033A	7/8 & 15/16
1723	3/8 & 7/16	1735	1 & 1 1/8
1025	1/2 & 19/32	1037	1 1/16 & 1 1/4
1727	9/16 & 5/8	1039A	1 5/16 & 1 1/2
1029	11/16 & 25/32	1039C	1 3/8 & 1 7/16
1731	3/4 & 13/16		

## WILLIAMS' SUPERRENCH® SETS

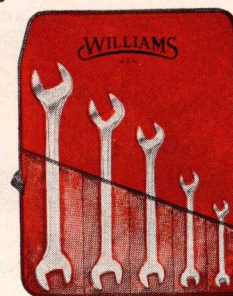
Selected Alloy Steel



SET No. 1025A

In Leatherette Roll  
In Cardboard Box  
6 Wrenches  
12 Different Openings  
CONTENTS

No.	Nominal Openings
1723	3/8 & 7/16
1025	1/2 & 19/32
1727	9/16 & 5/8
1029	11/16 & 25/32
1731A	3/4 & 7/8
1033C	15/16 & 1



SET No. 1005S

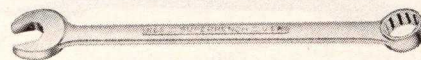
In Leatherette Roll  
In Cardboard Box  
5 Wrenches  
10 Different Openings  
CONTENTS

No.	Nominal Openings
1725	7/16 & 1/2
1727	9/16 & 5/8
1731A	3/4 & 7/8
1033C	15/16 & 1
1037	1 1/16 & 1 1/4

## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel

OPEN END-BOX PATTERN



The new long, slender design of these "Superrenches" offer exceptional balance and increase efficiency where clearance is limited.

In this new design, handles are longer and narrower—heads are slimmer. The thin, slim jaws of the open end have an opening angle of 15°.

Box end, with 12-point opening and thin walls, is offset from plane of handle, same size opening in both heads.

Drop-forged from tough Selected Alloy Steel, heat-treated and chrome-plated over nickel with faces of open end buffed bright.

## MILITARY DESCRIPTION:

MIL-W-1575 A, TYPE IV, COMBINATION, BOX AND OPEN END  
GGG-W-00636, TYPE III, COMBINATION, BOX AND OPEN END

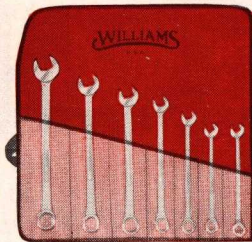
\* Amer. Std. Machine Screw and Stove Bolt Nuts.

No.	Nominal Openings	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regr. Nuts; Size Bolts	Ex-treme Length, Approx.	Std. Pkg.
1158	1/4 & 1/4				*No. 4	5	6
1159	5/16 & 5/16	1/8	1/8			5 1/2	6
1159A	11/32 & 11/32				*No. 8	6	6
1160	3/8 & 3/8		3/16			6	6
1161	7/16 & 7/16		1/4	1/4	1/4	6 5/8	6
1162	1/2 & 1/2	1/4	5/16	5/16	5/16	7 3/16	6
1163	9/16 & 9/16		3/8	3/8	5/16	7 15/16	6
1163A	19/32 & 19/32	5/16				8 3/4	6
1164	5/8 & 5/8		7/16	7/16	3/8	8 3/4	6
1165	11/16 & 11/16	3/8				9 5/8	6
1166	3/4 & 3/4		1/2	1/2	7/16	10 5/8	6
1166A	25/32 & 25/32	7/16				11 9/16	6
1167A	13/16 & 13/16		9/16		1/2	11 9/16	6
1167	7/8 & 7/8	1/2	5/8	9/16	9/16	12 11/16	6
1168	15/16 & 15/16	9/16		5/8		13 7/8	6
1170	1 & 1		3/4		5/8	15 1/8	6
1171	1 1/16 & 1 1/16	5/8		3/4		16 1/4	6
1172	1 1/8 & 1 1/8		7/8		3/4	17 7/16	6
1173	1 1/4 & 1 1/4	3/4		7/8		18 11/16	6
1174	1 5/16 & 1 5/16		1		7/8	20	6
1176A	1 3/8 & 1 3/8					21 5/16	1
1176	1 7/16 & 1 7/16	7/8		1		21 5/16	1
1178	1 1/2 & 1 1/2		1 1/8		1	21 5/16	1
1180	1 5/8 & 1 5/8	1		1 1/8		22 3/4	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' SUPERRENCH® SETS

Selected Alloy Steel  
OPEN END-BOX PATTERNSET  
No. 1170S  
In  
Leatherette  
Roll  
In  
Cardboard BoxSET  
No. 1173S  
In  
Leatherette  
Roll  
In  
Cardboard Box

## CONTENTS

No.	Nominal Openings	No.	Nominal Openings
SET No. 1170S			
1161	7/16 & 7/16	1164	5/8 & 5/8
1162	1/2 & 1/2	1166	3/4 & 3/4
1163	9/16 & 9/16	1167	7/8 & 7/8
SET No. 1173S			
1159	5/16 & 5/16	1162	1/2 & 1/2
1159A	11/32 & 11/32	1163	9/16 & 9/16
1160	3/8 & 3/8	1164	5/8 & 5/8
1161	7/16 & 7/16		

SET No. 1171S  
In Leatherette Roll  
In Cardboard BoxSET No. 1172S  
In Leatherette Roll  
In Cardboard Box

## CONTENTS

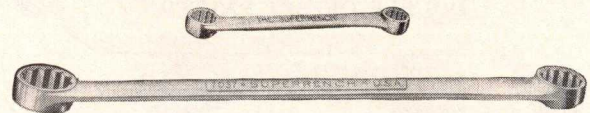
No.	Nominal Openings	No.	Nominal Openings
SET No. 1171S			
1162	1/2 & 1/2	1167	7/8 & 7/8
1163A	19/32 & 19/32	1171	1 1/16 & 1 1/16
1165	11/16 & 11/16	1173	1 1/4 & 1 1/4
1166A	25/32 & 25/32		
SET No. 1172S			
1159	5/16 & 5/16	1166	3/4 & 3/4
1159A	11/32 & 11/32	1166A	25/32 & 25/32
1160	3/8 & 3/8	1167A	13/16 & 13/16
1161	7/16 & 7/16	1167	7/8 & 7/8
1162	1/2 & 1/2	1168	15/16 & 15/16
1163	9/16 & 9/16	1170	1 & 1
1163A	19/32 & 19/32	1171	1 1/16 & 1 1/16
1164	5/8 & 5/8	1172	1 1/8 & 1 1/8
1165	11/16 & 11/16	1173	1 1/4 & 1 1/4

## WILLIAMS' 12-PT. BOX SUPERRENCHES®

Selected Alloy Steel  
15° ANGLE SHORT OFFSET PATTERNSET No. 6703  
In Leatherette Roll  
In Cardboard Box

## CONTENTS

No.	Nominal Openings
6723	3/8 & 7/16
6725	7/16 & 1/2
6727	9/16 & 5/8

WILLIAMS' 12-PT. BOX SUPERRENCHES®  
Selected Alloy Steel

New long, slender design offers exceptional balance. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. Hex nuts can be completely rotated where the swing of the wrench is limited to 30°. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright.

No.	Nominal Openings	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Ex-treme Length; Approx.	Std. Pkg.
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## 15° ANGLE LONG OFFSET PATTERN

## MILITARY DESCRIPTION:

MIL-W-15751A, TYPE I, STYLE A,

BOX WRENCH, DOUBLE HEAD, 12 POINT, 15°, REGULAR LENGTH

GGG-W-00636, TYPE I, CLASS 1, STYLE A,

BOX WRENCH, DOUBLE HEAD, 12 POINT, 15°, REGULAR LENGTH

7723	3/8 & 7/16	3/16 & 1/4	1/4	1/4	7/8	6
7023	13/32 & 1/2	3/16 & 1/4	1/4	1/4	8 1/16	6
7725	3/16 & 1/2	1/4 & 5/16	1/4	1/4	8 1/16	6
7725A	1/4 & 5/8	1/4 & 5/8	1/4	1/4	8 1/16	6
7725B	1/2 & 5/8	1/4 & 5/8	1/4	1/4	8 1/16	6
7025	1/2 & 5/8	1/4 & 5/8	1/4	1/4	8 1/16	6
7727	3/16 & 5/8	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	9 3/8	6
7027	19/32 & 5/8	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	9 3/8	6
7727A	5/8 & 11/16	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	9 3/8	6
7729	11/16 & 3/4	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	10 1/8	6
7029B	11/16 & 3/4	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	10 1/8	6
7029	11/16 & 3/4	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	10 1/8	6
7729A	3/4 & 25/32	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	11 3/8	6
7030	11/16 & 3/4	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	11 3/8	6
7731A	25/32 & 15/16	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	12	6
7031B	25/32 & 15/16	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	12 1/2	6
7031	25/32 & 15/16	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	12 1/2	6
7731B	15/16 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	12 1/2	6
7033A	7/8 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	13 3/8	6
7733	15/16 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	13 3/8	6
7033C	15/16 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	14 3/8	6
7034	7/8 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	15	6
7034A	15/16 & 1	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	15 1/2	6
7735	1 & 1 1/8	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	16	6
7735A	1 1/16 & 1 1/8	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	16 3/8	6
7037	1 1/16 & 1 1/8	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	17 1/4	6
7037A	1 1/8 & 1 1/4	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	18	6
7037B	1 1/4 & 1 1/2	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	18 3/4	6
7039	1 1/4 & 1 1/2	3/4 & 7/8	3/4 & 7/8	3/4 & 7/8	19 1/2	6
7039A	1 1/8 & 1 1/2	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	20 1/2	6
7040B	1 1/16 & 1 1/2	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	21 1/2	1
7041	1 1/16 & 1 1/2	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	22 1/2	1
7742B	1 1/2 & 1 1/16	1 1/8 & 1 1/4	1 & 1 1/8	1 & 1 1/8	22 3/4	1

## 15° ANGLE SHORT OFFSET PATTERN

## MILITARY DESCRIPTION:

MIL-W-15751A, TYPE I, STYLE B, SHORT LENGTH,

BOX WRENCH, DOUBLE HEAD, 12 POINT, 15°

GGG-W-00636, TYPE I, CLASS 2, STYLE B, SHORT LENGTH

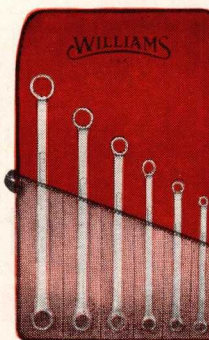
BOX WRENCH, DOUBLE HEAD, 12 POINT, 15°

6723	3/8 & 7/16	3/16 & 1/4	1/4	1/4	4 1/2	6
6725	7/16 & 1/2	1/4 & 5/16	1/4	1/4	5 1/2	6
6725A	7/16 & 9/16	1/4 & 3/8	1/4 & 3/8	1/4 & 3/8	5 1/2	6
6725B	1/2 & 9/16	1/4 & 3/8	1/4 & 3/8	1/4 & 3/8	5 1/2	6
6025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	5 1/2	6
6727	9/16 & 5/8	3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	6	6

## SET No. 7006

In Leatherette Roll  
In Cardboard Box6 Wrenches  
12 Different Openings  
CONTENTS

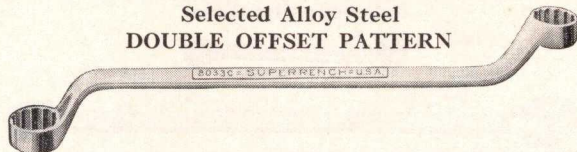
No.	Nominal Openings
7723	3/8 & 7/16
7025	1/2 & 19/32
7727	9/16 & 5/8
7029	11/16 & 25/32
7731A	3/4 & 7/8
7033C	15/16 & 1



See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' 12-PT. BOX SUPERRENCHES®

Selected Alloy Steel  
DOUBLE OFFSET PATTERN

New long, slender design offers exceptional balance. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. The Long Pattern provides unusual reach and leverage.

Drop-forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright. Nos. 8040B through 8053, Baked Gray enamel. Whitworth and Metric sizes available; see Catalog A-535.

No.	Nominal Openings	Am. Std. Heavy Nuts (USS); Size Bolts	Am. Std. Hex Hd. Cap Screws; Diam. Screws	Am. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regl. Nuts; Size Bolts	Ex-treme Length. Approx.	Std. Pkg.
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LONG PATTERN—Different Opening in Each Head

## MILITARY DESCRIPTION:

MIL-W-15751A, TYPE II, STYLE A,

BOX WR., DOUBLE HD., 12 POINT, DOUBLE OFFSET, REGULAR LENGTH

GGG-W-00636, TYPE I, STYLE A, CLASS 2,

BOX WR., DOUBLE HD., 12 POINT, DOUBLE OFFSET, REGULAR LENGTH

8021	5/16 & 3/8	13/32 & 1/2	1/8 & 3/16	1/8 & 1/4	1/4 & 3/8	7 1/2	6
8023	3/8 & 1/2	1/2 & 5/8	3/16 & 1/4	1/4 & 3/8	3/8 & 1/2	7 3/4	6
8025	1/2 & 5/8	5/8 & 3/4	1/4 & 3/8	3/8 & 1/2	1/2 & 5/8	8 1/8	6
8025B	1/2 & 5/8	5/8 & 3/4	1/4 & 3/8	3/8 & 1/2	1/2 & 5/8	8 1/8	6
8025	1/2 & 5/8	5/8 & 3/4	1/4 & 3/8	3/8 & 1/2	1/2 & 5/8	9 1/8	6
8027	5/8 & 3/4	3/4 & 7/8	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	9 3/4	6
8027A	5/8 & 3/4	3/4 & 7/8	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	9 3/4	6
8027	5/8 & 3/4	3/4 & 7/8	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	10 1/8	6
8029B	3/4 & 7/8	7/8 & 1	1/2 & 5/8	5/8 & 3/4	3/4 & 7/8	10 1/2	6
8029	3/4 & 7/8	7/8 & 1	1/2 & 5/8	5/8 & 3/4	3/4 & 7/8	10 1/2	6
8029A	3/4 & 7/8	7/8 & 1	1/2 & 5/8	5/8 & 3/4	3/4 & 7/8	11 1/8	6
8030	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	11 3/4	6
8031	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	11 3/4	6
8031B	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	12 1/2	6
8031	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	12 1/2	6
8031B	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	12 1/2	6
8033A	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	13 1/8	6
8033A	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	13 1/8	6
8034	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	14 1/8	6
8034A	7/8 & 1	1 & 1 1/8	5/8 & 3/4	3/4 & 7/8	7/8 & 1	15 1/2	6
8035	1 & 1 1/8	1 1/8 & 1 1/2	3/4 & 7/8	7/8 & 1	1 & 1 1/8	16 1/8	6
8035A	1 & 1 1/8	1 1/8 & 1 1/2	3/4 & 7/8	7/8 & 1	1 & 1 1/8	17 1/4	6
8037	1 1/8 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1 1/8 & 1 1/2	18 3/4	6
8037A	1 1/8 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1 1/8 & 1 1/2	19 1/2	6
8039B	1 1/4 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1 1/4 & 1 1/2	20 1/2	6
8039	1 1/4 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1 1/4 & 1 1/2	20 1/2	6
8039A	1 1/4 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1 1/4 & 1 1/2	20 1/2	6

FOR HEAVY SERVICE—LONG PATTERN—Round Handle

8040B	1 1/4 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1	21	1
8041	1 1/4 & 1 1/2	1 1/2 & 1 3/4	7/8 & 1	1 & 1 1/8	1	23	1
8042B	1 1/2 & 1 3/4	1 3/4 & 2	1 & 1 1/8	1 1/4 & 1 1/2	1 & 1 1/8	23	1
8045	1 3/4 & 2	2 & 2 1/4	1 1/8 & 1 1/4	1 1/4 & 1 1/2	1 1/4 & 1 1/2	25	1
8049	2 & 2 1/4	2 1/4 & 2 3/4	1 3/8 & 1 1/2	1 1/2 & 1 3/4	1 1/2 & 1 3/4	27	1
8053	2 1/4 & 2 3/4	2 3/4 & 3	1 5/8 & 1 3/4	1 3/4 & 2	1 3/4 & 2	30	1

SHORT PATTERN—Different Opening in Each Head

## MILITARY DESCRIPTION:

MIL-W-15751A, TYPE II, STYLE B, SHORT LENGTH.

BOX WRENCH, DOUBLE HEAD, 12 POINT, DOUBLE OFFSET

GGG-W-00636, TYPE I, CLASS 2, STYLE B, SHORT LENGTH.

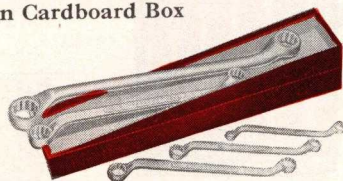
BOX WRENCH, DOUBLE HEAD, 12 POINT, DOUBLE OFFSET

9723	3/8 & 1/2	1/2 & 5/8	1/4 & 3/8	3/8 & 1/2	1/2 & 5/8	4 1/2	6
9725	1/2 & 5/8	5/8 & 3/4	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	5 1/2	6
9725A	1/2 & 5/8	5/8 & 3/4	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	5 1/2	6
9725B	1/2 & 5/8	5/8 & 3/4	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	5 1/2	6
9025	1/2 & 5/8	5/8 & 3/4	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	5 1/2	6
9727	5/8 & 3/4	3/4 & 7/8	3/8 & 1/2	1/2 & 5/8	5/8 & 3/4	6	6

SET No. 8005A  
In Cardboard Box

## CONTENTS

No.	Nominal Openings
8025	1/2 & 19/32
8029	11/16 & 25/32
8033A	7/8 & 15/16
8037	1 1/16 & 1 1/4
8041	1 7/16 & 1 5/8



## WILLIAMS' 12-PT. BOX SUPERRENCH® SETS

Selected Alloy Steel



SET No. 8006

## CONTENTS

No.	Nominal Openings	No.	Nominal Openings
SET No. 8006			
8723	3/8 & 7/16	8029	11/16 & 25/32
8025	1/2 & 19/32	8731A	3/4 & 7/8
8727	9/16 & 5/8	8033C	15/16 & 1

## SET No. 9703

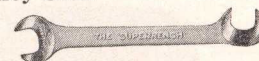
9723	3/8 & 7/16	9727	9/16 & 5/8
9725	7/16 & 1/2		

## WILLIAMS' MIDGET SUPERRENCHES®

Selected Alloy Steel



15° Angle Openings



15° and 75° Angle Openings

Midget "Superrenches" are unusually thin and slim, but surprisingly tough and strong. Forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, faces bright.

No.	Nominal Openings	Extreme Length	Thickness Heads	Standard Package
15° ANGLE OPENING				
1106	13/64 & 7/32	3	3/32	6
1107	15/64 & 1/4	3	3/32	6
1108	9/32 & 11/32	3 1/2	1/8	6
1108A	1/4 & 5/16	3 1/2	1/8	6
1109	5/16 & 3/8	3 1/2	1/8	6

## 15-75° ANGLE OPENING

## MILITARY DESCRIPTION:

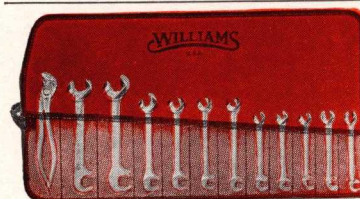
MIL-W-15751A, TYPE VII, STYLE B,

IGNITION WR., DOUBLE SPEAR HEAD, OPEN END, 15° &amp; 75° HEADS

GGG-W-00636, TYPE VI, STYLE B,

IGNITION WR., DOUBLE SPEAR HEAD, OPEN END, 15° &amp; 75° HEADS

1112	3/16 & 3/16			6
1113	13/64 & 13/64			6
1114	7/32 & 7/32	3	3/32	6
1115	15/64 & 15/64			6
1116	1/4 & 1/4			6
1118	9/32 & 9/32			6
1120	5/16 & 5/16	3 3/4	1/8	6
1122	11/32 & 11/32			6
1124	3/8 & 3/8			6
1128	7/16 & 7/16			6
1132	1/2 & 1/2	4 1/2	5/32	6

SET No. 1141P  
In Leatherette Roll  
In Cardboard Box

Contains 11 Midget "Superrenches" Nos. 1112, 1113, 1114, 1115, 1116, 1118, 1120, 1122, 1124, 1128, 1132 and 1519 "Superplier".

SET No. 1149P  
With 1519  
"Superplier"  
In  
Leatherette Roll  
In Cardboard Box



SET No. 1149  
Without 1519  
"Superplier"  
In  
Leatherette Roll  
In Cardboard Box

Handy assortment of 5 Midget "Superrenches" Nos. 1106, 1107, 1108, 1108A, 1109 and 1519 "Superplier".

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' MIDGET SUPERRENCHES®

Selected Alloy Steel

### 6-POINT BOX MIDGET PATTERN



Midget Double Offset Box "Superrenches" are ideal for carburetor, electrical and ignition work. Offset design clears small obstructions where working space is limited. Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright. Sold individually or in Set No. 1154S.



SET No. 1154S  
In Leatherette Roll  
In Cardboard Box

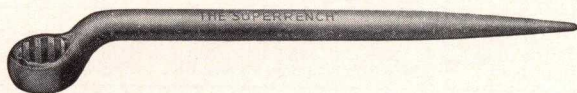
No.	Nominal Openings	Extreme Length	Standard Package
1150	13/64 & 3/16	2 7/8	6
1151	15/64 & 7/32	3 1/8	6
1152	9/32 & 1/4	3 3/8	6
1153	11/32 & 5/16	3 3/4	6

## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel

### STRUCTURAL BOX PATTERN

With 12-Point Openings



The long sturdy tapered handle provides ample strength and leverage, and can easily be inserted into bolt holes to bring them into line.

Drop-forged from Selected Alloy Steel, heat-treated, and finished in baked gray enamel all over.

NOTE: These Wrenches can be supplied with heads bent up to 90° right or left of handle at extra charge.

MILITARY DESCRIPTION: MIL-W-15751A, TYPE X B  
GGG-W-00636, TYPE IX, CLASS 2

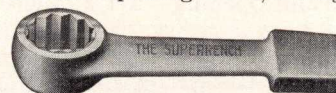
No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	Ex-treme Length, Approx.	Head		Handle Offset		Std. Pkg.
				Thick-ness	Out-side Diam.	At Head	At End	
8905A	13/16	.....	12	5/8	1 11/32	1 1/8	1 25/32	1
8905	7/8	1/2	12	5/8	1 11/32	1 1/8	1 25/32	1
8906	15/16	9/16	12	3/4	1 1/2	1 1/4	1 61/64	1
8906B	1	.....	12	3/4	1 1/2	1 1/4	1 61/64	1
8907	1 1/16	5/8	15	13/16	1 11/16	1 5/16	2 9/64	1
8907A	1 1/8	.....	15	13/16	1 11/16	1 5/16	2 9/64	1
8908	1 1/4	3/4	17	7/8	2	1 7/16	2 21/64	1
8908A	1 5/16	.....	17	7/8	2	1 7/16	2 21/64	1
8909	1 7/16	7/8	21	1	2 3/16	1 1/2	2 3/4	1
8909A	1 1/2	.....	21	1	2 3/16	1 1/2	2 3/4	1
8910	1 5/8	1	22	1 1/16	2 1/2	1 5/8	2 7/8	1
8910A	1 11/16	.....	22	1 1/16	2 1/2	1 5/8	2 7/8	1
8911	1 13/16	1 1/8	23	1 1/8	2 3/4	1 11/16	3	1
8911A	1 7/8	.....	23	1 1/8	2 3/4	1 11/16	3	1
8912	2	1 1/4	24 1/2	1 1/4	3	1 13/16	3 5/32	1
8913	2 3/16	1 3/8	26	1 3/8	3 3/8	2	3 1/2	1
8914	2 3/8	1 1/2	28	1 1/2	3 23/32	2 1/8	3 11/16	1
8915	2 9/16	1 5/8	30	1 5/8	3 29/32	2 1/4	3 13/16	1
8916	2 3/4	1 3/4	30	1 3/4	4 5/32	2 3/8	3 29/32	1

## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel

### HEAVY STRIKING FACE 12-POINT BOX PATTERN

12-Point Opening — 7-1/2° Angle



Particularly efficient in close quarters where large nuts must be set up tight, or frozen nuts loosened. The heads, approximately as thick as the nuts they handle, afford extra strength and full bearing. Will rotate hex nuts where the wrench can be swung only 15°. Drop-forged from Selected Alloy Steel—heat-treated. Finished in baked gray enamel all over.

#### MILITARY DESCRIPTION:

MIL-W-15751A, TYPE XIII, ST'L. A, SLUGGING WR., SHORT L'GTH, 12 PT. BOX  
MIL-W-15751A, TYPE XIII, ST'L. B, SLUGGING WR., LONG L'GTH, 12 PT. BOX  
GGG-W-00636, TYPE XI, STYLE A, SLUGGING WR., SHORT L'GTH, 12 PT. BOX  
GGG-W-00636, TYPE XI, STYLE B, SLUGGING WR., LONG L'GTH, 12 PT. BOX

No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. HxHd. Cap Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Nut; Size Bolt	Ex-treme Length, Approx.	Head		Std. Pkg.
							Thick-ness	Out-side Diam.	
SFH-1808	1 1/4	3/4	.....	7/8	.....	7	13/16	2 1/16	1
SFH-1808A	1 5/16	.....	.....	7/8	.....	7	13/16	2 1/16	1
SFH-1809	1 7/16	7/8	.....	1	.....	8	15/16	2 3/8	1
SFH-1809A	1 1/2	.....	1 1/8	.....	.....	8	15/16	2 3/8	1
SFH-1810	1 5/8	1	.....	1 1/8	.....	9	1 1/8	2 5/8	1
SFH-1810A	1 11/16	.....	1 1/4	.....	1 1/8	9	1 1/8	2 5/8	1
SFH-1811	1 13/16	1 1/8	.....	1 1/4	.....	10	1 1/4	2 15/16	1
SFH-1811A	1 7/8	.....	.....	1 1/4	.....	10	1 1/4	2 15/16	1
SFH-1812	2	1 1/4	.....	1 3/8	.....	11	1 3/8	3 1/4	1
SFH-1813	2 3/16	1 3/8	.....	1 1/2	.....	12	1 1/2	3 1/2	1
SFH-1813A	2 1/4	.....	.....	1 1/2	.....	12	1 1/2	3 1/2	1
SFH-1814	2 3/8	1 1/2	.....	.....	1 1/2	13	1 5/8	3 3/4	1
SFH-1815	2 9/16	1 5/8	.....	.....	.....	14	1 3/4	4 1/8	1
SFH-1815A	2 5/8	.....	.....	1 3/4	.....	14	1 3/4	4 1/8	1
SFH-1816	2 3/4	1 3/4	.....	.....	.....	15	1 7/8	4 9/16	1
SFH-1817A	3	.....	.....	.....	.....	17	2	4 13/16	1
SFH-1817	3 1/8	2	.....	.....	.....	17	2	4 13/16	1

## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel

### STRIKING FACE BOX — OFFSET PATTERN

With 12-Point Openings



The Striking Face Box "Superrench" is particularly well adapted for heavy industrial and automotive work where large nuts must be set up tight or frozen nuts loosened.

Offset head gives ample nut clearance. Drop-forged from Selected Alloy Steel, properly heat-treated to withstand the necessary shocks. Finished in baked gray enamel all over.

#### MILITARY DESCRIPTION:

MIL-W-15751A, TYPE XIV, STRIKING WRENCH, 12 POINT BOX  
GGG-W-00636, TYPE XII, STRIKING WRENCH, 12 POINT BOX

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length, Approx.	Head		Std. Pkg.
						Thick-ness	Out-side Diam.	
8807	1 1/16	5/8	3/4	.....	10 1/2	13/16	1 11/16	1
8807A	1 1/8	.....	3/4	.....	10 1/2	13/16	1 11/16	1
8808	1 1/4	3/4	7/8	.....	11	7/8	2	1
8808A	1 5/16	.....	7/8	.....	11	7/8	2	1
8809	1 7/16	.....	.....	7/8	11 1/2	1	2 3/16	1
8809A	1 1/2	.....	1	.....	11 1/2	1	2 3/16	1
8810	1 5/8	1	1 1/8	.....	12	1 1/16	2 1/2	1
8810A	1 11/16	.....	1 1/8	.....	12	1 1/16	2 1/2	1
8811	1 13/16	1 1/8	1 1/4	.....	12 1/2	1 1/8	2 3/4	1
8811A	1 7/8	.....	1 1/4	.....	12 1/2	1 1/8	2 3/4	1
8812	2	1 1/4	1 3/8	.....	13 1/2	1 3/8	3	1
8813	2 3/16	1 3/8	1 1/2	.....	13 1/2	1 3/8	3 3/8	1
8813A	2 1/4	.....	1 1/2	.....	13 1/2	1 3/8	3 3/8	1
8814	2 3/8	1 1/2	.....	1 1/2	13 1/2	1 3/8	3 3/8	1
8815	2 9/16	1 5/8	.....	.....	14	1 1/2	3 23/32	1
8815A	2 5/8	.....	1 3/4	.....	14 1/2	1 5/8	3 29/32	1
8816	2 3/4	1 3/4	.....	.....	15	1 5/8	3 29/32	1
8816B	2 15/16	1 7/8	.....	.....	15	1 3/4	4 5/32	1
8817A	3	.....	.....	.....	16	1 7/8	4 21/32	1
8817	3 1/8	2	.....	.....	16 1/2	2	4 15/16	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



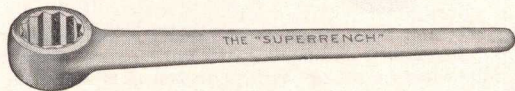
**WILLIAMS' SUPERRENCHES®**  
Selected Alloy Steel  
**REGULAR 12-POINT BOX PATTERN**  
12-Point Opening — 7-1/2° Angle



These "Superrenches" will rotate hex nuts where the wrench can be swung only 15°. Drop-forged from Selected Alloy Steel — heat-treated. Chrome-plate over nickel, heads bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. Hx. Hd. Cap Screw; Diam. Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length Approx.	Head		Std. Pkg.
							Thick-ness	Out-side Diam.	
1800A	7/16	1/4	1/4	1/4	1/4	3 1/2	7/32	45/64	6
1801	1/2	1/4	5/16	5/16	5/16	4	17/64	27/32	6
1802A	9/16	3/8	3/8	3/8	5/16	4 7/8	5/16	61/64	6
1802	19/32	5/16	3/8	3/8	5/16	4 7/8	5/16	61/64	6
1803A	5/8	7/16	7/16	3/8	5/8	5 7/8	23/64	1 3/32	6
1803	11/16	3/8	7/16	3/8	5/8	5 7/8	23/64	1 3/32	6
1804A	3/4	1/2	1/2	7/16	6/7/8	6 7/8	13/32	1 1/4	6
1804	25/32	7/16	1/2	7/16	6/7/8	6 7/8	13/32	1 1/4	6
1805A	13/16	9/16	9/16	1/2	7/3/4	29/64	1 23/64	6	6
1805	7/8	1/2	5/8	9/16	7/3/4	29/64	1 23/64	6	6
1806	15/16	9/16	5/8	5/8	8/3/4	1/2	1 35/64	6	6
1806B	1	3/4	3/4	5/8	8/3/4	1/2	1 35/64	6	6
1807	1 1/16	5/8	3/4	3/4	9/7/8	9/16	1 25/32	6	6
1807A	1 1/8	7/8	3/4	3/4	9/7/8	9/16	1 25/32	6	6
1808	1 1/4	3/4	7/8	7/8	11 1/2	9/16	2 1/16	6	6
1808A	5/16	1	1	7/8	11 1/2	9/16	2 1/16	6	6
1809	7/16	7/8	1	1	13 3/8	21/32	2 3/8	6	6
1809A	1 1/2	1 1/8	1 1/8	1	13 3/8	21/32	2 3/8	6	6
1810	5/8	1	1 1/8	1 1/8	15 1/4	3/4	2 5/8	1	1
1810A	11/16	1 1/4	1 1/4	1 1/8	15 1/4	3/4	2 5/8	1	1
1811	13/16	1 1/8	1 1/4	1 1/4	17	13/16	2 29/32	1	1
1811A	1 7/8	1 1/4	1 1/4	1 1/4	17	13/16	2 29/32	1	1
1812	2	1 1/4	1 3/8	1 3/8	19	15/16	3 1/4	1	1

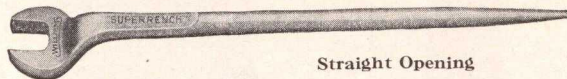
**WILLIAMS' SUPERRENCHES®**  
Selected Alloy Steel  
**HEAVY 12-POINT BOX PATTERN**  
12-Point Opening — 7-1/2° Angle



These "Superrenches" will rotate hex nuts where the wrench can be swung only 15°. Drop-forged from Selected Alloy Steel — heat-treated. Chrome-plate over nickel, heads bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. Hx. Hd. Cap Screw; Diam. Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length Approx.	Head		Std. Pkg.
							Thick-ness	Out-side Diam.	
H1808	1 1/4	3/4	7/8	7/8	11 1/2	13/16	2 1/16	1	1
H1808A	5/16	1	1	7/8	11 1/2	13/16	2 1/16	1	1
H1809	7/8	1	1	1	13 3/8	15/16	2 3/8	1	1
H1809A	1 1/2	1 1/8	1 1/8	1	13 3/8	15/16	2 3/8	1	1
H1810	5/8	1	1 1/8	1 1/8	15 1/4	1 1/8	2 5/8	1	1
H1810A	11/16	1 1/4	1 1/4	1 1/8	15 1/4	1 1/8	2 5/8	1	1
H1811	13/16	1 1/8	1 1/4	1 1/4	17	1 1/4	2 15/16	1	1
H1811A	1 7/8	1 1/4	1 1/4	1 1/4	17	1 1/4	2 15/16	1	1
H1812	2	1 1/4	1 3/8	1 3/8	19	1 3/8	3 1/4	1	1
H1813	2 3/16	1 3/8	1 1/2	1 1/2	21	1 1/2	3 1/2	1	1
H1813A	2 1/4	1 1/2	1 1/2	1 1/2	21	1 1/2	3 1/2	1	1
H1814	2 3/8	1 1/2	1 1/2	1 1/2	23	1 5/8	3 3/4	1	1
H1815	2 9/16	1 5/8	1 5/8	1 3/4	25	1 3/4	4 1/8	1	1
H1815A	2 5/8	1 3/4	1 3/4	1 3/4	25	1 3/4	4 1/8	1	1
H1816	2 3/4	1 3/4	1 3/4	1 3/4	27	1 7/8	4 9/16	1	1
H1817A	3	2	2	2	30	2	4 13/16	1	1
H1817	3 1/8	2	2	2	30	2	4 13/16	1	1

**WILLIAMS' SUPERRENCHES®**  
Selected Alloy Steel  
**STRUCTURAL PATTERN**



Straight Opening

Drop-forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

**MILITARY DESCRIPTION:**  
MIL-W-15751A, TYPE X A, STRUCTURAL WR., SINGLE, OPEN END, OFFSET HANDLE  
GGG-W-00636, TYPE IX, CLASS 1, STRUCTURAL WR., SINGLE, OPEN END, OFFSET HANDLE

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length, Approx.	Thick-ness Head	Handle Offset		Std. Pkg.
						At Head	At End	
1905	7/8	1/2	9/16	14 1/2	17/32	1	1 7/8	1
1906B	1	5/8	5/8	14 1/2	17/32	1	1 7/8	1
1907	1 1/16	3/4	3/4	17	5/8	1 1/8	2 3/8	1
1907A	1 1/8	3/4	3/4	19	5/8	1 1/8	2 3/8	1
1908	1 1/4	7/8	7/8	19	11/16	1 1/4	2 3/4	1
1908A	5/16	7/8	7/8	19	11/16	1 1/4	2 3/4	1
1909	7/16	1	1	21	3/4	1 3/8	3 1/16	1
1909A	1 1/2	1	1	21	3/4	1 3/8	3 1/16	1
1910	5/8	1	1	23	13/16	1 1/2	3 3/8	1
1910A	11/16	1 1/8	1 1/8	23	13/16	1 1/2	3 3/8	1
1911	13/16	1 1/8	1 1/8	25	7/8	1 5/8	3 11/16	1
1911A	1 7/8	1 1/4	1 1/4	25	7/8	1 5/8	3 11/16	1
1912	2	1 1/4	1 1/4	25	7/8	1 5/8	3 11/16	1

**WILLIAMS' SUPERRENCHES®**  
Selected Alloy Steel  
**CONSTRUCTION PATTERN**

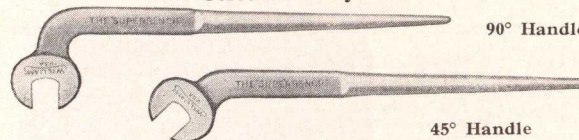


15° Angle

Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

No.	Nominal Opening	U. S. Std. Nut; Size Bolt	S.A.E. Std. Nut and CapScrew	Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Std. Pkg.
1205	7/8	1/2	9/16	9/16	14 1/2	1
1206B	1	5/8	5/8	5/8	14 1/2	1
1207	1 1/16	3/4	3/4	3/4	17	1
1207A	1 1/8	3/4	3/4	3/4	17	1
1208	1 1/4	7/8	7/8	7/8	19	1
1208A	5/16	7/8	7/8	7/8	19	1
1209	7/16	1	1	1	21	1
1209A	1 1/2	1	1	1	21	1
1210	5/8	1 1/8	1 1/8	1 1/8	23	1
1211	13/16	1 1/8	1 1/4	1 1/4	25	1
1212	2	1 1/4	1 3/8	1 3/8	25	1

**WILLIAMS' SUPERRENCHES®**  
**15° ANGLE CONSTRUCTION PATTERN**  
Selected Alloy Steel



90° Handle

These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Drop-forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

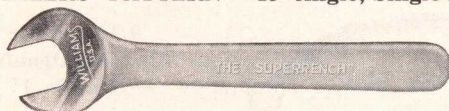
No.		Nominal Opening	U. S. Std. Nut; Size Bolt	S.A.E. Std. Nut and Cap Screw	Am. Std. Regular Nut; Size Bolt	Extreme Length, Approx.		Std. Pkg.
45° Handle	90° Handle					45° Handle	90° Handle	
X-1205	Z-1205	7/8	1/2	9/16	9/16	14	12	1
X-1206B	Z-1206B	1			5/8	14	12	1
X-1207	Z-1207	1 1/16	5/8	3/4		16 1/2	14 5/8	1
X-1207A	Z-1207A	1 1/8			3/4	16 1/2	14 5/8	1
X-1208	Z-1208	1 1/4	3/4	7/8		18 1/2	16 3/8	1
X-1209	Z-1209	1 7/16	7/8	1		20 3/8	17 7/8	1
X-1209A	Z-1209A	1 1/2			1	20 3/8	17 7/8	1
X-1210	Z-1210	1 5/8	1	1 1/8		22 1/4	19 1/2	1
X-1211	Z-1211	1 13/16	1 1/8	1 1/4		24	21	1
X-1212	Z-1212	2	1 1/4	1 3/8		24	21	1

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



### WILLIAMS' SUPERRENCHES®

Selected Alloy Steel  
ENGINEERS' PATTERN — 15° Angle, Single Head



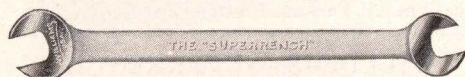
These "Superrenches" are drop-forged from Selected Alloy Steel and heat-treated. Finish—Chrome-plate over nickel, faces bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

**MILITARY DESCRIPTION:**  
MIL-W-15751A, TYPE VI, ENGINEERS' WR., SINGLE HEAD, OPEN END, 15°  
GGG-W-00636, TYPE V, ENGINEERS' WR., SINGLE HEAD, OPEN END, 15°

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Hex Hd. Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Ex-treme Length	Thick-ness Head	Std. Pkg.
1000	5/16	1/8	1/8			3 5/8	7/32	6
1700	3/8		3/16			4 1/8	1/4	6
1000A	13/32	3/16				4 1/8	1/4	6
1701	7/16		1/4	1/4	1/4	4 3/4	9/32	6
1001	1/2	1/4	5/16	5/16		4 3/4	9/32	6
1702	9/16		3/8	3/8	5/16	5 5/8	5/16	6
1002	19/32	5/16				5 5/8	5/16	6
1703	5/8		7/16	7/16	3/8	6 1/2	11/32	6
1003	11/16	3/8				6 1/2	11/32	6
1704	3/4		1/2	1/2	7/16	7 3/8	3/8	6
1004	25/32	7/16				7 3/8	3/8	6
1705	13/16		9/16		1/2	8 3/8	7/16	6
1005	7/8	1/2	5/8	9/16	9/16	8 3/8	7/16	6
1006	15/16	9/16				9 1/2	1/2	6
1706			3/4	11/16	5/8	9 1/2	1/2	6
1007	1 1/16	5/8		3/4		10 3/4	9/16	6
1707	1 1/8		7/8		3/4	10 3/4	9/16	6
1008	1 1/4	3/4		7/8		12 1/4	21/32	6
1008A	1 5/16		1		7/8	12 1/4	21/32	6
1009	1 7/16	7/8		1		13 7/8	23/32	6
1709	1 1/2		1 1/8		1	13 7/8	23/32	6
1010	1 5/8	1		1 1/8		15 1/2	25/32	1
1010A	1 11/16		1 1/4		1 1/8	15 1/2	25/32	1
1011	1 13/16	1 1/8		1 1/4		17 1/8	7/8	1
1011A	1 7/8			1 1/4		17 1/8	7/8	1
1012	2	1 1/4		1 3/8		18 7/8	15/16	1
1012A	2 1/16			1 1/2	1 3/8	18 7/8	15/16	1
1013	2 3/16	1 3/8				20 3/4	1	1
1013A	2 1/4			1 1/2		20 3/4	1	1
1014	2 3/8	1 1/2				22 3/4	1 1/16	1
1014A	2 7/16			1 5/8		22 3/4	1 1/16	1

### WILLIAMS' SUPERRENCHES®

Selected Alloy Steel  
TAPPET PATTERN — 15° Angle, Double Head



These light, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency. It makes the same size opening in both heads of the wrench unnecessary. Consequently each "Superrench" serves two sizes of tappets.

Drop-forged from special Selected Alloy Steel, heat-treated, chrome-finished, heads buffed bright.

**MILITARY DESCRIPTION:**  
MIL-W-15751A, TYPE XI, TAPPET WR., DOUBLE SPEAR HD, OPEN END, 15°  
GGG-W-00636, TYPE X, CLASS 1, TAPPET WR., DOUBLE SPEAR HEAD, OPEN END, 15°

No.	Nominal Openings Tappet Sizes	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regl. Nuts; Size Bolts	Ex-treme Length	Thick-ness Heads	Std. Pkg.
1090A	3/8 & 7/16		3/16 & 1/4	1/4 & 1/4	1/4	8	5/32	6
1090	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	8	5/32	6
1090G	7/16 & 1/2		1/4 & 5/16	1/4 & 5/16	1/4	8	5/32	6
1090D	7/16 & 1/2	1/4	3/8 & 7/16	3/8 & 7/16	5/16	8	5/32	6
1092	7/16 & 1/2		3/8 & 7/16	3/8 & 7/16	5/16	8	5/32	6
1092F	7/16 & 1/2	3/8	7/16 & 1/2	7/16 & 1/2	5/16	8	5/32	6
1094G	3/4 & 1 1/16		1/2 & 5/8	1/2 & 5/8	7/16 & 1/2	9	7/32	6
1094	3/4 & 1 1/8		1/2 & 5/8	1/2 & 5/8	7/16 & 1/2	9	7/32	6
1096	1 1/16 & 1	9/16	5/8 & 3/4	5/8 & 3/4	7/16 & 1/2	9	7/32	6

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

### WILLIAMS' SUPERRENCHES®

Selected Alloy Steel  
EXTRA LONG, THIN TAPPET PATTERN—15° Angle



Extra long (15") for convenient reach over hot manifolds. Slender and light, with narrow jaws for easy adjustment. The range of openings—3/8 to 5/8"—provides comprehensive service for practically every make of car, including late models. All heads 3/16" thick. Sold individually and in sets.

Drop-forged from special Selected Alloy Steel, and heat-treated for maximum strength. Cadmium-plated.

**MILITARY DESCRIPTION:**  
MIL-W-15751A, TYPE XII, TAPPET WR., SINGLE SPEAR HEAD, OPEN END, 15°  
GGG-W-00636, TYPE X, CLASS 2, TAPPET WR., SINGLE SPEAR HEAD, OPEN END, 15°

No.	Nominal Opening	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (S.A.E.)	Amer. Std. Regular Nut	Std. Pkg.
A100C	3/8	3/16			6
A100	7/16	1/4	1/4	1/4	6
A100A	1/2	5/16	5/16	5/16	6
A100B	9/16	3/8	3/8	5/16	6
A101	5/8	7/16	7/16	3/8	6

### WILLIAMS' TAPPET SUPERRENCH® SETS

Selected Alloy Steel



Alloy Steel and heat-treated. Cadmium-plated.

#### SET No. 106

In Leatherette Roll  
In Cardboard Box

6 wrenches; 2 each of Nos. A100A, A100B and A101, described above.

See Table above for Opening and Bolt Size Tabulation.



#### SET No. 108

In Leatherette Roll  
In Cardboard Box

8 wrenches; 2 each of Nos. A100, A100A, A100B and A101, described above.



SET No. 1032  
In Leatherette Roll  
In Cardboard Box

Six "Superrenches"; 2 each of Nos. 1090, 1090D and 1092F, covering every tappet size from 7/16" to 1 1/16". Cares for 80% of all passenger cars, buses and trucks.

See Table opposite for Opening and Bolt Size Tabulation.



SET No. 1042  
In Leatherette Roll  
In Cardboard Box

Eight "Superrenches"; 2 each of Nos. 1090, 1090D, 1092F and 1094, provide comprehensive service for tappet adjustment. Cover practically all passenger cars, buses and trucks. An ideal set for the automobile mechanic.



## WILLIAMS' SUPERRENCHES®

Selected Alloy Steel  
FLARE NUT PATTERN

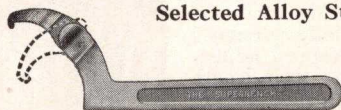


Open box end, has a 6-point opening offset 15° from plane of handle with a tube opening slot at 22-1/2° to the axis of the handle. Open end is thin, with slim jaws and opening at angle of 15°. Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated, heads buffed.

No.	OPEN END		OPEN-BOX END				Ex- treme Length, Approx.	Std. Pkg.
	Nomi- nal Open- ing	Thick- ness Head	Nomi- nal Open- ing	Out- side Diam.	Thick- ness Head	Max. Tube Clear- ance		
1312	3/8	3/16	3/8	21/32	5/16	1/4	5 5/8	6
1314	7/16	13/64	7/16	25/32	11/32	9/32	6	6
1316	1/2	7/32	1/2	29/32	7/16	3/8	6 3/8	6
1318	9/16	15/64	9/16	31/32	7/16	7/16	6 7/8	6
1320	5/8	1/4	5/8	1 1/64	1/2	15/32	7 5/8	6
1322	11/16	5/16	11/16	1 9/32	9/16	9/16	8 3/4	6
1324	3/4	5/16	3/4	1 9/32	9/16	9/16	8 3/4	6
1328	7/8	11/32	7/8	1 7/16	5/8	11/16	9 1/4	6
1332	1	3/8	1	1 19/32	11/16	3/4	9 7/8	6
1334	1 1/16	7/16	1 1/16	1 25/32	3/4	27/32	10 3/4	6
1336	1 1/8	7/16	1 1/8	1 25/32	3/4	27/32	10 3/4	6

## WILLIAMS' ADJUSTABLE HOOK SPANNERS

Selected Alloy Steel



These Spanners are drop-forged from Selected Alloy Steel, heat-treated and chrome-plated, face of jaw and raised part of handle buffed bright.

Sold individually, or in Set No. 1400.

SET No. 1400

In Leatherette Roll  
In Cardboard Box

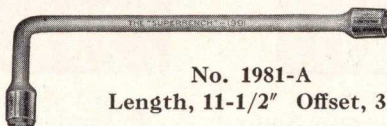


No.	Capacity for Circles, Diameter	Extreme Length, Approx.	Thickness		Depth Hook	Std. Pkg.
			Handle	Hook		
1471	3/4 to 2	6 3/8	1/4	11/32	1/8	6
1472	1 1/4 to 3	8 1/8	9/32	13/32	5/32	6
1474	2 to 4 3/4	11 3/8	5/16	15/32	3/16	6

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel

For Ford V-8, 6 and Mercury Connecting Rods



No. 1981-A

Length, 11-1/2" Offset, 3"

Heat-treated and Chrome-plated

Spin nuts until engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

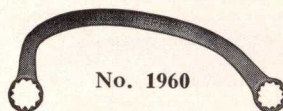
6-Point Openings, 9/16 and 9/16". Special thin design sockets to handle clearance problem on all Ford 6, all Ford V-8 (except 60 H.P.) and all Mercury connecting rod nuts. Very handy for manifold nuts and valve cap covers. Also useful for the connecting rod nuts on other automobiles.

Packaged 6 to a box.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel  
For Starter and Manifold Nuts



No. 1960

9/16 and 5/8"  
12-Point Openings  
Length, 7"

Heat-treated and Chrome-plated

MILITARY DESCRIPTION:  
MIL-W-15751A, TYPE III, BOX WRENCH, DOUBLE HEAD, 12 POINT,  
CRESCENT SHAPED  
GGG-W-00636, TYPE II, BOX WRENCH, DOUBLE HEAD, 12 POINT,  
CRESCENT SHAPED

For starter and manifold nuts, all models Chrysler and Dodge; DeSoto and Plymouth. Also very useful for starters and manifolds on many other passenger automobiles. Packaged 6 to a box.

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel

For Chevrolet Starter Nuts



No. 1961

5/8 and 3/4"  
12-Point Openings  
Length, 7-1/2"

Heat-treated and Chrome-plated

MILITARY DESCRIPTION:  
MIL-W-15751A, TYPE III, BOX WRENCH, DOUBLE HEAD, 12 POINT,  
CRESCENT SHAPED  
GGG-W-00636, TYPE II, BOX WRENCH, DOUBLE HEAD, 12 POINT,  
CRESCENT SHAPED

For starter nuts, all Chevrolet models, 1930-'48. Also very useful for starters on many other passenger automobiles. Packaged 6 to a box.

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel

For Eccentric Adjustments



No. 1983

Openings 3/16 & 1/4", Length 9", Thickness Heads 1/4"  
Heat-treated and Chrome-plated

For Eccentric Cam, Lockheed, Hydraulic and Bendix mechanical brakes. Packaged 6 to a box.

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel

For Star Nut, Etc. and all Bendix Hydraulic



No. 1998-B

Blade Tips, 5/64 x 15/32" Length, 8"

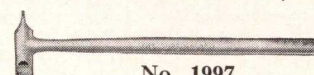
Heat-treated and Chrome-plated. Specially offset to service Star Nut Eccentric and all Bendix Hydraulic.

Packaged 6 to a box.

## WILLIAMS' SUPERRENCH®

Selected Alloy Steel

For Slotted Anchor Pins, Etc.



No. 1997

Length, 6" Blade Tips, 1/16 x 13/32"

Heat-treated and Chrome-plated

For slotted anchor pins, drag links, steering post and other jobs where regular screw drivers cannot be used. Also excellent as a glaziers' tool. Packaged 6 to a box.



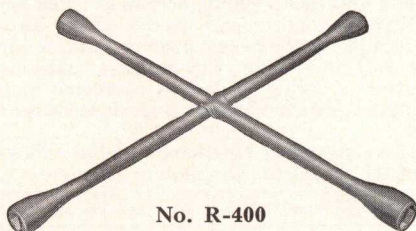
**WILLIAMS' SPECIAL SUPERSOCKET®**

Selected Alloy Steel  
For Cadillac Connecting Rod  
No. SC-614

1/2" Square Drive  
7/16" 6-Point Opening 3-1/8" Long

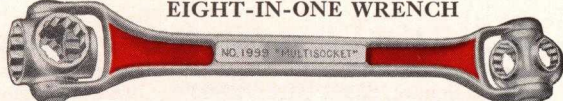
**MILITARY DESCRIPTION:**  
MIL-W-15838A, TYPE I, CLASS I, STYLE B

The Cadillac Connecting Rod Nut requires an unusually strong socket for servicing. Made from selected alloy steel, heat-treated and chrome-plated. Services all model Cadillacs, 1937-48. Packed six to a box.

**WILLIAMS' FOUR-WAY RIM WRENCH**

No. R-400

With hexagon socket openings 3/4, 3/4, 13/16 and 7/8", Williams Four-Way Rim Wrench will service wheels on all popular passenger cars and light trucks. Overall arm lengths of 20" offer ample clearance and leverage. Made of selected steel—finish, chrome-color enamel. Standard package—one.

**WILLIAMS' NEW MULTISOCKET  
EIGHT-IN-ONE WRENCH**

No. 1999

8 Different 12-Point Openings

Small Head; 7/16, 1/2, 9/16, 19/32"

Large Head; 5/8, 11/16, 3/4, 7/8"

The openings grip hex nuts on six sides; no slipping or rounding of the nuts' corners.

Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

The entire wrench is drop-forged, heat-treated and finished in chrome-plate. Length, 10 inches. Individually packaged.

**WILLIAMS'  
GENERAL PURPOSE UTILITY SET**

SET No. APS-3

Complete in Leatherette Roll  
or Cardboard Box

An ideal set for numerous small jobs around home and office. Also for general automobile use. Convenient size for glove compartment.

Contains one each No. 24 4" Screw Driver with plastic handle, 8 in. "Super-adjustable" Wrench and No. 6 6" Combination Slip-joint Pliers.

**WILLIAMS' PISTON RING COMPRESSOR**

For Piston Diameters,  
2-1/2 to 5 Inches

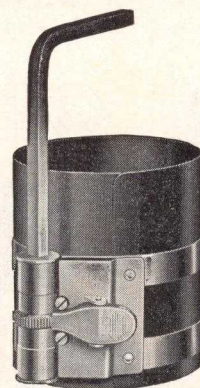
No. RC-50

Williams Ring Compressor has a 3-1/2" high compression band of highest grade clock-spring steel. It takes all rings at one time, including skirt ring on Pontiac, Ford, Hudson, etc.

Two tension bands eliminate flare-out at bottom when rings leave the compressor. With beaded edge the compressor cannot enter the cylinder with the piston.

Hardened ratchet is operated with a 1/4" square offset key wrench. Double friction brake adjustment provides additional control. The self-locking ratchet pawl is made of oil tempered spring steel.

Individually packaged, operating instructions included.

**WILLIAMS'  
AUTOMATIC TRANSMISSION SETS**

No. ATS-1  
Steel Case,

1-3/8 x 3-1/2 x 14-1/4"

No. ATS-2  
Plywood Panel,

1/2 x 9-1/2 x 19"

These sets were designed to facilitate oil-change work on automatic transmissions such as Hydra-Matic, Dyna-Flo, Power Glide, Ultramatic, Fluid Drive and Chrysler, DeSoto, Plymouth, Ford, Mercury and Studebaker automatic transmissions. Set may be purchased in metal case or plywood panel as illustrated.

**Contents — either set**

Quan.	No.	Description	Use
1	B-409	Socket, 9/32" Sq. Opening.	Torque Converter Drain Plug (Dynaflow)
1	B-1214	Socket, 7/16" 12 Pt. Openg.	Hydramatic Coupling and Fordomatic Converter Drain Plugs
1	B-1216	Socket, 1/2" 12 Pt. Opening	Flywheel Cover Bolts
1	B-1218	Socket, 9/16" 12 Pt. Openg.	Flywheel Cover Bolts
1	B-1220	Socket, 5/8" 12 Pt. Opening	For Hex Head Converter Drain Plug (Studebaker)
1	B-1224	Socket, 3/4" 12 Pt. Opening	Torque Converter Drain Plug (Chrysler Products)
1	B-110	Extension . . . . .	3/8" male for (Power Glide) Housing Plug
1	B-51	Reversible Ratchet . . . . .	3/8" male for (Power Glide) Housing Plug
1	26	6" Rd. Blade Screw Driver.	For Rotating Flywheels
1	7733	15" Offset Box Wrench—7/8 & 1" Openings. . . . .	For Dynaflow Transmission Oil Pan Plug
1	1725	Open End Wrench—7/16 & 1/2" Openings	For Transmission Pipe Plug
1	3/16"	Hexagon Key Wrench—4-1/2" long	For old type Fluid Coupling Drain Plug (Hydramatic)

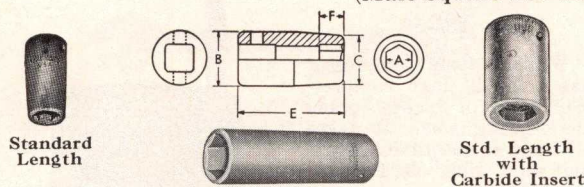


# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF POWER WRENCHES USED IN PRODUCTION AND MAINTENANCE

## "O" SERIES — 1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



Standard Length

Std. Length with Carbide Insert

Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Maximum Dimensions Dia. Drive End B	Nominal Dimensions Dia. Nose C	Lgth. Over-all E	Depth Opening F	Std. Pkg.
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### STANDARD LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/16	0-606				†2 & 3	.440	.362	7/8	1/16	12
7/32	0-607					.440	.409	7/8	1/16	12
1/4	0-608				†4	.440	.440	7/8	3/32	12
9/32	0-609					.503	.471	7/8	3/32	12
5/16	0-610	1/8	1/8		†5 & 6	.503	.503	7/8	7/64	12
11/32	0-611				†8	.503	.503	7/8	1/8	12
3/8	0-612		3/16		†10	.565	.565	7/8	1/8	12
7/16	0-614		1/4	1/4	1/4 & †12	.628	.628	7/8	9/32	12
1/2	0-616	1/4	5/16	5/16		.690	.690	7/8	21/64	12

### STD. LENGTH—THIN WALL—SINGLE HEXAGON OPENINGS

For Nut Runners—Not Recommended for Impact Wrenches

3/16	30-606				†2 & 3	.435	.295	27/32	1/16	12
7/32	30-607					.435	.330	27/32	1/16	12
1/4	30-608				†4	.435	.367	27/32	3/32	12
9/32	30-609					.435	.411	27/32	3/32	12
5/16	30-610	1/8	1/8		†5 & 6	.453	.453	27/32	7/64	12
11/32	30-611				†8	.490	.490	27/32	1/8	12
3/8	30-612		3/16		†10	.526	.526	27/32	1/8	12
7/16	30-614		1/4	1/4	1/4 & †12	.606	.606	27/32	9/32	12
1/2	30-616	1/4	5/16	5/16		.674	.674	27/32	21/64	12

### STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS

Finish—Rust Resistant

5/16	0-810	1/8			†5 & 6	.534	.534	7/8	7/64	12
3/8	0-812				†10	.628	.628	7/8	1/8	12
7/16	0-814			1/4	1/4 & †12	.815	.815	7/8	7/32	12
1/2	0-816	1/4	5/16	5/16		.846	.846	7/8	7/32	12

### BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

1/4	10-608				†4	.440	.440	2	3/32	12
5/16	10-610	1/8	1/8		†5 & 6	.503	.503	2	7/64	12
3/8	10-612		3/16		†10	.565	.565	2	1/8	12
7/16	10-614		1/4	1/4	1/4 & †12	.628	.628	2	9/32	12

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

Nominal Opening A	No.	American Standard Hex Head Tapping Screw	Maximum Dimensions Dia. Drive End B	Nominal Dimensions Lgth. Over-all E	Depth Opening F	Std. Pkg.
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### STANDARD LENGTH—SINGLE HEXAGON OPENINGS

FOR HARDENED AND SELF-TAPPING SCREWS

Finish—Copper colored for positive identification

3/16	20-606	3, 4, 5	.440	.315	7/8	1/16	12
1/4	20-608	6, 7, 8	.440	.440	7/8	7/64	12
9/32	20-609		.503	.471	7/8	7/64	12
5/16	20-610	10 & 12	.503	.503	7/8	1/8	12
11/32	20-611		.503	.503	7/8	1/8	12
3/8	20-612	14 & 1/4	.565	.565	7/8	3/16	12

### WITH CARBIDE INSERTS FOR SELF-TAPPING SCREWS

This line of Industrial Sockets has been developed for driving case-hardened, self-tapping screws with power tools of all types. They may also be used with hand drivers.

Due to the hard case found on screws of the self-tapping type, even the best alloy steels, properly hardened, do not offer sufficient life. The screw drive opening in these sockets is formed of solid Carbide which is permanently inserted into a hardened steel blank. Actual life due to the Carbide surfaces which drive the screw is at least ten times that of all steel sockets.

Sockets in table below fit Hex, Hex Washer and Oval Hex Washer Heads. See Page 21 for sizes in "2" Series.

### STANDARD LENGTH—SINGLE HEXAGON OPENINGS

WITH CARBIDE INSERTS

Finish—Satin Nickel Plate for positive identification

1/4	20-608C	6, 7, 8	.502	.502	7/8	7/64	12
5/16	20-610C	10 & 12	.564	.564	7/8	1/8	12
3/8	20-612C	14 & 1/4	.627	.627	7/8	3/16	12
7/16	20-614C		.751	.751	15/16	15/64	12

### STANDARD LENGTH—SINGLE HEXAGON OPENING

FOR ZERK TYPE LUBRICATION FITTINGS

Finish—Copper colored for positive identification

5/16	20-610B	Fits GMC No. 110347 Type C Straight Fitting	.503	.503	7/8	1/8	12
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See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



MAGNETIC ADAPTER No. BO-0



### MAGNETIC HEXAGON—SQUARE SHANK No. BO-02

Designed for use *only* with Williams Industrial Sockets for Hardened and Self-Tapping Screws as listed below.

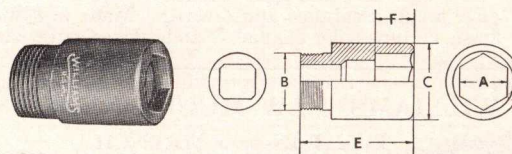
A telescopic magnetic device passes within an assembled socket and contacts the hexagon screw head, retaining same within the socket opening. The magnet, imbedded in the drive member, is spring loaded to overcome air gaps and transmits its magnetism through a hardened steel tip to the screw head.

Threaded connection is "left hand" and provides a positive fastening of the socket to the shank or adapter.

No.	Lgth.	Sq. Male	Sq. Female	Std. Pk.	No.	Lgth.	Sq. Male	Hex Male	Std. Pk.
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BO-0	2	1/4	1/4	1	BO-02	2-1/2	1/4	1/4	1
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## "O" SERIES—STANDARD LENGTH



### For Use with Williams' Magnetic Adapter or Shank

Designed for use *only* with Magnetic Adapter No. BO-0 or Hexagon-Square Shank No. BO-02 to drive Hardened or Self-Tapping Screws widely used in assembly operations.

Drive end employs a male threaded portion for registration with a "left hand" Locking Nut on the drive member. The drive member contains a magnetic device to hold a hexagon screw head within the socket opening.

Nominal Opening A	No.	American Standard Hex Head Tapping Screw	Maximum Dimensions Dia. Drive End B	Nominal Dimensions Dia. Nose C	Depth Opening F	Std. Pkg.
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### STANDARD LENGTH—SINGLE HEXAGON OPENINGS

FOR HARDENED AND SELF TAPPING SCREWS

Finish—Rust Resistant

1/4	B20-608	6, 7, 8	.437	.440	7/8	7/64	12
9/32	B20-609		.437	.471	7/8	7/64	12
5/16	B20-610	10 & 12	.437	.503	7/8	1/8	12
3/8	B20-612	14 & 1/4	.437	.565	7/8	3/16	12

## "O" SERIES ACCESSORIES

For replacement locking device parts see listing on Page 27.

### EXTENSIONS



No.	No.	Length	Square Male	Square Female	Std. Pkg.
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Male squares have spring plunger	Male squares have ball plunger				
O-102A	O-102B	2	1/4	1/4	6
O-106A	O-106B	6	1/4	1/4	6

### HEXAGON—SQUARE SHANKS



### Male squares have spring plunger

No.	Length	Square Male	Hex Male	Std. Pkg.
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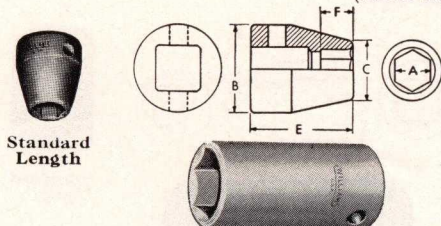
O-02A	2	1/4	1/4	6
O-04A	4	1/4	1/4	6



# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF POWER WRENCHES USED IN PRODUCTION AND MAINTENANCE

"2" SERIES — 3/8" SQUARE DRIVE  
(Male Square .376-.378 Female Square .379-.381)



Standard Length



Standard Length Surface Drive

Bolt Clearance Length

Nominal Opening	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut, Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Lgth. Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
A										

## STANDARD LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/16	2-610	1/8	1/8	.....	†5 & 6	.753	.503	7/8	7/64	12
11/32	2-611	.....	.....	.....	†8	.753	.534	7/8	1/8	12
3/8	2-612	.....	3/16	.....	†10	.753	.565	7/8	1/8	12
7/16	2-614	.....	1/4	1/4	1/4 & †12	.753	.653	7/8	9/32	12
1/2	2-616	1/4	5/16	5/16	.....	.753	.753	15/16	21/64	12
9/16	2-618	.....	3/8	3/8	5/16	.878	.815	1	13/32	12
19/32	2-619	5/16	.....	.....	.....	.878	.841	1	5/16	12
5/8	2-620	.....	7/16	7/16	3/8	.878	.893	1	29/64	12
11/16	2-622	3/8	.....	.....	.....	.878	.971	1-1/8	29/64	12
3/4	2-624	.....	1/2	1/2	7/16	1.035	1.035	1-1/8	9/16	12

## STANDARD LENGTH—ALTERNATE DESIGN SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	A2-612	.....	3/16	.....	†10	.690	.555	7/8	1/8	12
7/16	A2-614	.....	1/4	1/4	1/4 & †12	.690	.636	7/8	9/32	12
1/2	A2-616	1/4	5/16	5/16	.....	.716	.716	7/8	21/64	12
9/16	A2-618	.....	3/8	3/8	5/16	.794	.794	7/8	13/32	12
5/8	A2-620	.....	7/16	7/16	3/8	.878	.878	1	29/64	12
11/16	A2-622	3/8	.....	.....	.....	.956	.956	1	29/64	12
3/4	A2-624	.....	1/2	1/2	7/16	1.034	1.034	1-1/8	9/16	12

## STD. LENGTH—THIN WALL—SINGLE HEXAGON OPENINGS

For Nut Runners—Not Recommended for Impact Wrenches

5/16	32-610	1/8	1/8	.....	†5 & 6	.659	.469	15/16	7/64	12
3/8	32-612	.....	3/16	.....	†10	.659	.546	15/16	1/8	12
7/16	32-614	.....	1/4	1/4	1/4 & †12	.669	.622	15/16	9/32	12
1/2	32-616	1/4	5/16	5/16	.....	.701	.701	15/16	21/64	12
9/16	32-618	.....	3/8	3/8	5/16	.775	.775	31/32	13/32	12
5/8	32-620	.....	7/16	7/16	3/8	.852	.852	1	29/64	12
11/16	32-622	3/8	.....	.....	.....	.929	.929	1 1/32	29/64	12
3/4	32-624	.....	1/2	1/2	7/16	1.002	1.002	1 3/32	9/16	12

## STD. LENGTH—THIN WALL—DOUBLE HEXAGON OPENINGS

For Nut Runners—Not Recommended for Impact Wrenches

5/16	32-1210	1/8	1/8	.....	†5 & 6	.659	.469	15/16	7/64	12
3/8	32-1212	.....	3/16	.....	†10	.659	.546	15/16	1/8	12
7/16	32-1214	.....	1/4	1/4	1/4 & †12	.669	.622	15/16	9/32	12
1/2	32-1216	1/4	5/16	5/16	.....	.701	.701	15/16	21/64	12
9/16	32-1218	.....	3/8	3/8	5/16	.775	.775	31/32	13/32	12
5/8	32-1220	.....	7/16	7/16	3/8	.852	.852	1	29/64	12
11/16	32-1222	3/8	.....	.....	.....	.929	.929	1 1/32	29/64	12
3/4	32-1224	.....	1/2	1/2	7/16	1.002	1.002	1 3/32	9/16	12

## STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS

Finish—Rust Resistant

5/16	2-810	1/8	.....	.....	†5 & 6	.690	.565	7/8	7/64	12
3/8	2-812	.....	.....	.....	†10	.690	.650	7/8	1/8	12
7/16	2-814	.....	1/4	1/4 & †12	.....	.753	.753	7/8	7/32	12
1/2	2-816	1/4	5/16	.....	.....	.878	.878	7/8	7/32	12
9/16	2-818	.....	3/8	5/16	.....	1.003	1.003	1	17/64	12
5/8	2-820	.....	7/16	3/8	.....	1.128	1.128	1-1/8	21/64	12

## BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/16	12-610	1/8	1/8	.....	†5 & 6	.690	.477	1-1/2	7/64	12
3/8	12-612	.....	3/16	.....	†10	.690	.555	1-1/2	1/8	12
7/16	12-614	.....	1/4	1/4	1/4 & †12	.690	.636	1-1/2	9/32	12
1/2	12-616	1/4	5/16	5/16	.....	.716	.716	1-1/2	21/64	12
9/16	12-618	.....	3/8	3/8	5/16	.794	.794	1-1/2	13/32	12
5/8	12-620	.....	7/16	7/16	3/8	.878	.878	1-1/2	29/64	12
11/16	12-622	3/8	.....	.....	.....	.956	.956	1-1/2	29/64	12
3/4	12-624	.....	1/2	1/2	7/16	1.034	1.034	1-1/2	9/16	12

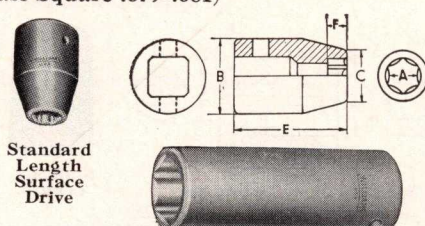
## STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR ZERK TYPE LUBRICATION FITTINGS

Finish—Copper colored for positive identification

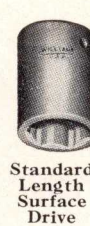
5/16	22-610	GMC No. 110347, Type C Strgt. Fit.	.690	.487	1-1/16	1/8	12
7/16	22-614	GMC No. 119512, Type C Strgt. Fit.	.690	.628	1-1/16	15/64	12
		GMC No. 145433, Type C Special Taper Drive, Straight					

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



Standard Length Surface Drive



Standard Length Surface Drive

Bolt Clearance Length—Surface Drive

Nominal Opening	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut, Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Lgth. Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
A										

## STD. LENGTH—SURFACE DR. SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	A2-612A	.....	3/16	.....	†10	.690	.555	7/8	1/8	12
7/16	A2-614A	.....	1/4	1/4	1/4 & †12	.690	.636	7/8	9/32	12
1/2	A2-616A	1/4	5/16	5/16	.....	.716	.716	7/8	21/64	12
9/16	A2-618A	.....	3/8	3/8	5/16	.794	.794	7/8	13/32	12
5/8	A2-620A	.....	7/16	7/16	3/8	.878	.878	1	29/64	12

## BOLT CLEARANCE LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	A12-612A	.....	3/16	.....	†10	.690	.555	1-1/2	1/8	12
7/16	A12-614A	.....	1/4	1/4	1/4 & †12	.690	.636	1-1/2	9/32	12
1/2	A12-616A	1/4	5/16	5/16	.....	.716	.716	1-1/2	21/64	12
9/16	A12-618A	.....	3/8	3/8	5/16	.794	.794	1-1/2	13/32	12
5/8	A12-620A	.....	7/16	7/16	3/8	.878	.878	1-1/2	29/64	12

Nominal Opening	No.	American Standard Hex Head Tapping Screw	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Lgth. Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
A							

## STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF-TAPPING SCREWS

Finish—Copper colored for positive identification

5/16	22-610	10 & 12	.690	.487	1-1/16	1/8	12
3/8	22-612	14 & 1/4	.690	.548	1-1/16	3/16	12
7/16	22-614	.....	.690	.628	1-1/16	15/64	12
1/2	22-616	5/16	.716	.716	1-1/16	15/64	12
9/16	22-618	3/8	.878	.815	1	19/64	12

## STANDARD LENGTH—SINGLE HEXAGON OPENINGS WITH CARBIDE INSERTS FOR SELF-TAPPING SCREWS

See Page 20 for description

5/16	22-610C	10 & 12	.689	.562	1-1/16	1/8	12
3/8	22-612C	14 & 1/4	.689	.632	1-1/16	3/16	12
7/16	22-614C	.....	.789	.789	1-1/16	15/64	12
1/2	22-616C	5/16	.877	.877	1-1/16	15/64	12

## "2" SERIES ACCESSORIES

For replacement locking device parts see listing on Page 27.

### ADAPTERS



Male square has ball plunger

No.	Length	Square Female	Square Male	Std. Pkg.
2-4B	1 3/8	3/8	1/2	6

### EXTENSIONS



No.	Length	Square Male	Hex Male	Std. Pkg.
Male squares have spring plunger				
2-103A	3	3/8	3/8	6
2-106A	6	3/8	3/8	6

### HEXAGON—SQUARE SHANKS



Male squares have spring plunger

No.	Length	Square Male	Hex Male	Std. Pkg.
2-02A	2	3/8	1/4	6
2-32A	1 13/16	3/8	7/16	6
2-33A	2 3/4	3/8	7/16	6
2-35A	5	3/8	7/16	6
2-38A	8	3/8	7/16	6
2-312A	12	3/8	7/16	6



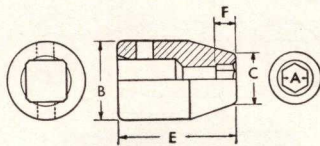
# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF POWER WRENCHES USED IN PRODUCTION AND MAINTENANCE

"4" SERIES — 1/2" SQUARE DRIVE  
(Male Square .501-.503 Female Square .504-.506)



Standard Length



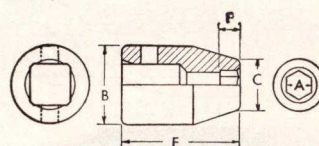
See Page 23 for Handy Sets



Standard Length



Standard Length



Standard Length

Nominal Opening	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions	Nominal Dimensions	Std. Pkg.
A						Dia. Drive End B	Length Over-all E	

## STANDARD LENGTH—IMPACT DESIGN

### SINGLE HEXAGON OPENINGS

#### Finish—Rust Resistant

3/8	4-612	.....	3/16	.....	1/4	1.003	.628	1-1/2	1/8	12
7/16	4-614	.....	1/4	1/4	1/4 & 1/2	1.003	.706	1-1/2	9/32	12
1/2	4-616	1/4	5/16	5/16	.....	1.065	.784	1-1/2	21/64	12
9/16	4-618	.....	3/8	3/8	5/16	1.065	.879	1-1/2	13/32	12
19/32	4-619	5/16	.....	.....	.....	1.065	.909	1-1/2	5/16	12
5/8	4-620	.....	7/16	7/16	3/8	1.128	.956	1-1/2	29/64	12
11/16	4-622	3/8	.....	.....	.....	1.128	1.034	1-1/2	29/64	12
3/4	4-624	.....	1/2	1/2	7/16	1.128	1.128	1-1/2	9/16	12
25/32	4-625	7/16	.....	.....	.....	1.128	1.143	1-1/2	7/16	12
13/16	4-626	.....	9/16	.....	1/2	1.128	1.190	1-1/2	7/16	12
7/8	4-628	1/2	5/8	9/16	9/16	1.128	1.151	1-5/8	39/64	12
15/16	4-630	.....	5/8	.....	.....	1.315	1.378	1-3/4	23/32	12
1	4-632	.....	3/4	.....	5/8	1.315	1.440	1-3/4	35/64	6
1 1/16	4-634	5/8	.....	3/4	.....	1.315	1.518	2	13/16	6
1 1/8	4-636	.....	7/8	.....	3/4	1.315	1.612	2	21/32	6
1 3/16	4-638	.....	.....	.....	.....	1.315	1.690	2	21/32	6
1 1/4	4-640	3/4	.....	7/8	.....	1.315	1.753	2	21/32	6

## STANDARD LENGTH—ALTERNATE DESIGN

### SINGLE HEXAGON OPENINGS

#### Finish—Rust Resistant

3/8	A4-612		3/16		1/4	.878	.608	1-1/2	1/8	12
7/16	A4-614		1/4		1/4 & 1/2	.878	.691	1-1/2	9/32	12
1/2	A4-616	1/4	5/16	5/16		940	.776	1-1/2	21/64	12
9/16	A4-618		3/8	3/8	5/16	940	.857	1-1/2	13/32	12
19/32	A4-619	5/16				899	.899	1-1/2	5/16	12
5/8	A4-620		7/16	7/16	3/8	944	.944	1-1/2	29/64	12
11/16	A4-622	3/8				1.025	1.025	1-1/2	29/64	12
3/4	A4-624		1/2	1/2	7/16	1.108	1.108	1-1/2	9/16	12
13/16	A4-626		9/16		1/2	1.190	1.190	1-1/2	7/16	12
7/8	A4-628	1/2	5/8	9/16	9/16	1.271	1.271	1-5/8	39/64	12
15/16	A4-630		5/8			1.357	1.357	1-3/4	23/32	12
1	A4-632		3/4		5/8	1.440	1.440	1-3/4	35/64	6
1 1/16	A4-634	5/8	3/4			1.525	1.525	2	13/16	6

## STD. LENGTH—THIN WALL—SINGLE HEXAGON OPENINGS

### For Nut Runners—Not Recommended for Impact Wrenches

#### Finish—Rust Resistant

7/16	34-614	.....	1/4	1/4	1/4 & 1/2	.....	1-1/2	9/32	12
1/2	34-616	1/4	5/16	5/16	.....	.....	1-1/2	21/64	12
9/16	34-618	.....	3/8	3/8	5/16	.....	1-1/2	13/32	12
5/8	34-620	.....	7/16	7/16	3/8	.....	1-1/2	29/64	12
11/16	34-622	3/8	.....	.....	.....	.....	1-1/2	29/64	12
3/4	34-624	.....	1/2	1/2	7/16	.....	1-1/2	9/16	12
13/16	34-626	.....	9/16	.....	1/2	.....	1-1/2	7/16	12
7/8	34-628	1/2	5/8	9/16	9/16	.....	1-5/8	39/64	12
15/16	34-630	.....	5/8	.....	.....	.....	1-3/4	23/32	12

## STD. LENGTH—THIN WALL—DOUBLE HEXAGON OPENINGS

### For Nut Runners—Not Recommended for Impact Wrenches

#### Finish—Rust Resistant

7/16	34-1214	.....	1/4	1/4	1/4 & 1/2	.....	1-1/2	9/32	12
1/2	34-1216	1/4	5/16	5/16	.....	.....	1-1/2	21/64	12
9/16	34-1218	.....	3/8	3/8	5/16	.....	1-1/2	13/32	12
5/8	34-1220	.....	7/16	7/16	3/8	.....	1-1/2	29/64	12
11/16	34-1222	3/8	.....	.....	.....	.....	1-1/2	29/64	12
3/4	34-1224	.....	1/2	1/2	7/16	.....	1-1/2	9/16	12
13/16	34-1226	.....	9/16	.....	1/2	.....	1-1/2	7/16	12
7/8	34-1228	1/2	5/8	9/16	9/16	.....	1-5/8	39/64	12
15/16	34-1230	.....	5/8	.....	.....	.....	1-3/4	23/32	12

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## Bolt Clearance Length

Nominal Opening	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions	Nominal Dimensions	Std. Pkg.
A						Dia. Drive End B	Length Over-all E	

## STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS

### Finish—Rust Resistant

3/8	4-812	.....	.....	1/4	1/4 & 1/2	.....	1-1/2	1/8	6
7/16	4-814	.....	.....	1/4	1/4 & 1/2	.....	1-1/2	7/32	6
1/2	4-816	1/4	.....	5/16	.....	.....	1-1/2	7/32	6
9/16	4-818	.....	3/8	5/16	.....	.....	1-1/2	17/64	6
5/8	4-820	.....	7/16	3/8	.....	.....	1-1/2	21/64	6
11/16	4-822	3/8	.....	.....	.....	.....	1-1/2	21/64	6
3/4	4-824	.....	1/2	7/16	.....	.....	1-1/2	3/8	6
13/16	4-826	.....	1/2	9/16	.....	.....	1-1/2	7/16	6
7/8	4-828	1/2	.....	9/16	.....	.....	1-1/2	1/2	6
15/16	4-830	.....	5/8	.....	.....	.....	1-3/4	1/2	6
1	4-832	.....	5/8	.....	.....	.....	1-3/4	35/64	6

## BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

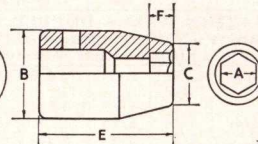
### Finish—Rust Resistant

3/8	14-612	.....	3/16	.....	1/4	.....	3-1/4	1/8	6
7/16	14-614	.....	1/4	.....	1/4 & 1/2	.....	3-1/4	9/32	6
1/2	14-616	1/4	5/16	5/16	.....	.....	3-1/4	21/64	6
9/16	14-618	.....	3/8	3/8	5/16	.....	3-1/4	13/32	6
5/8	14-620	.....	7/16	7/16	3/8	.....	3-1/4	29/64	6
11/16	14-622	3/8	.....	.....	.....	.....	3-1/4	29/64	6
3/4	14-624	.....	1/2	1/2	7/16	.....	3-1/4	9/16	6
13/16	14-626	.....	9/16	.....	1/2	.....	3-1/4	7/16	6
7/8	14-628	1/2	5/8	9/16	9/16	.....	3-1/2	39/64	6
15/16	14-630	.....	5/8	.....	.....	.....	3-1/2	23/32	6
1	14-632	.....	3/4	.....	5/8	.....	3-1/2	35/64	4
1 1/16	14-634	5/8	.....	3/4	.....	.....	3-1/2	13/16	4
1 1/8	14-636	.....	7/8	.....	.....	.....	3-1/2	21/32	4

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.



For Hardened and Self-Tapping Screws



For Zerk Type Lub. Fittings

Nominal Opening	No.	American Standard Hex Head Tapping Screw	Maximum Dimensions	Nominal Dimensions	Std. Pkg.
A			Dia. Drive End B	Dia. Nose C	

## STANDARD LENGTH—SINGLE HEXAGON OPENINGS

### FOR HARDENED AND SELF-TAPPING SCREWS

#### Finish—Copper colored for positive identification

3/8	24-612	14 & 1/4	.....	.....	.....
7/16	24-614	.....	.....	.....	.....
1/2	24-616	5/16	.....	.....	.....
9/16	24-618	3/8	.....	.....	.....

## STANDARD LENGTH—SINGLE HEXAGON OPENINGS

### FOR ZERK TYPE LUBRICATION FITTINGS

#### Finish—Copper colored for positive identification

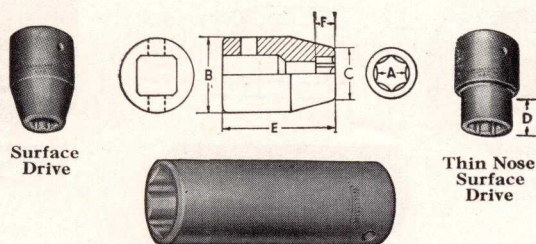
3/8	24-612B	Fits GMC C Fitting— No. 110309 Elbow 45° No. 191350 Elbow 85-90° No. 109350 Elbow 67-1/2° No. 109353 Elbow 30°	.....	.....	.....
7/16	24-614B	No. 109354 Elbow 85-90° No. 145435 Spec. Taper Dr. 67-1/2° No. 145436 Spec. Taper Dr. 85-90° No. 119512 Straight Fitting	.....	.....	.....
7/16	24-614	No. 145433 Spec. Taper Dr. Straight	.....	.....	.....



## WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS FOR ALL TYPES OF POWER WRENCHES USED IN PRODUCTION AND MAINTENANCE

**"4" SERIES—1/2" SQUARE DRIVE**

(Male Square .501-.503 Female Square .504-.506)



Bolt Clearance Length—Surface Drive

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Maximum Dimensions Dia. Drive End B	Dia. Nose C	Nominal Dimensions Length Overall E	Depth Opening F	Std. Pkg.
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### STANDARD LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

7/16	A4-614A	1/4	1/4	1/4 & 1/2	.878	.691	1-1/2	9/32	12
1/2	A4-616A	5/16	5/16	5/16	.940	.776	1-1/2	21/64	12
9/16	A4-618A	3/8	3/8	3/8	.940	.857	1-1/2	13/32	12
5/8	A4-620A	7/16	7/16	3/8	.944	.944	1-1/2	29/64	12
11/16	A4-622A	3/8	3/8	3/8	1.025	1.025	1-1/2	29/64	12
3/4	A4-624A	1/2	1/2	7/16	1.108	1.108	1-1/2	9/16	12
13/16	A4-626A	9/16	9/16	1/2	1.190	1.190	1-1/2	7/16	12
7/8	A4-628A	1/2	5/8	9/16	1.271	1.271	1-5/8	39/64	12

### STANDARD LENGTH—THIN NOSE—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

\* Nose Length D—13/16, 49/64 and 47/64 respectively.

7/16	34-614A	1/4	1/4	1/4 & 1/2	.878	.671	1-1/2	9/32	12
1/2	34-616A	5/16	5/16	5/16	.940	.753	1-1/2	21/64	12
9/16	34-618A	3/8	3/8	5/16	.940	.831	1-1/2	13/32	12

### BOLT CLEARANCE LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

7/16	A14-614A	1/4	1/4	1/4 & 1/2	.878	.691	3-1/4	9/32	6
1/2	A14-616A	5/16	5/16	5/16	.940	.776	3-1/4	21/64	6
9/16	A14-618A	3/8	3/8	5/16	.940	.857	3-1/4	13/32	6
5/8	A14-620A	7/16	7/16	3/8	.940	.940	3-1/4	29/64	6
3/4	A14-624A	1/2	1/2	7/16	1.108	1.108	3-1/4	9/16	6
13/16	A14-626A	9/16	9/16	1/2	1.190	1.190	3-1/4	7/16	6

## WILLIAMS' INDUSTRIAL SOCKET SETS

**"4" SERIES—1/2" SQUARE DRIVE**



SET No. A-46

Complete in Cardboard Box  
6 Pieces

### CONTENTS

6 Standard Length—Alternate Design Industrial Sockets  
with Hexagon Openings—1/2, 9/16, 5/8, 11/16, 3/4 and 7/8"

For Part Numbers and Dimensions See A-4 and 4 Series  
Standard Length Sockets as Listed on Page 22

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## ACCESSORIES

For replacement locking device parts see listing on Page 27.

### ADAPTERS



Male squares have ball plunger

No.	Length	Square Female	Square Male	Std. Pkg.
4-2B	1 1/2	1/2	3/8	6
4-5B	1 11/16	1/2	5/8	6

### EXTENSIONS



No. Male squares have thru pin hole	No. Male squares have spring plunger	No. Male squares have ball plunger	Length	Square Male	Square Female	Std. Pkg.
4-105	4-105A	4-105B	5	1/2	1/2	6
4-110	4-110A	4-110B	10	1/2	1/2	6

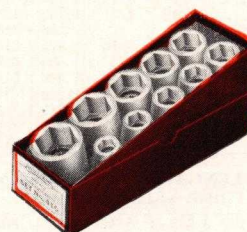
### HEXAGON — SQUARE SHANKS



No. Male squares have thru pin hole	No. Male squares have spring plunger	Length	Square Male	Hex Male	Std. Pkg.
4-32A	4-32A	2 1/16	1/2	7/16	6
4-33	4-33A	2 3/4	1/2	7/16	6
4-35	4-35A	5	1/2	7/16	6
4-38A	4-38A	8	1/2	7/16	6
4-312A	4-312A	12	1/2	7/16	6
4-318A	4-318A	18	1/2	7/16	6
4-53	4-53A	3	1/2	5/8	6
4-55	4-55A	5	1/2	5/8	6
4-58A	4-58A	8	1/2	5/8	6
4-512A	4-512A	12	1/2	5/8	6
4-518A	4-518A	18	1/2	5/8	6

## WILLIAMS' INDUSTRIAL SOCKET SETS

**"4" SERIES—1/2" SQUARE DRIVE**



SET No. 410

Complete in Cardboard Box  
10 Pieces

### CONTENTS

10 Standard Length—Industrial Sockets

with Hexagon Openings—

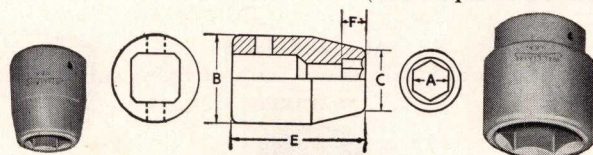
7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 and 1"



# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF POWER WRENCHES USED IN PRODUCTION AND MAINTENANCE

"5" SERIES — 5/8" SQUARE DRIVE  
(Male Square .626-.628 Female Square .628-.631)

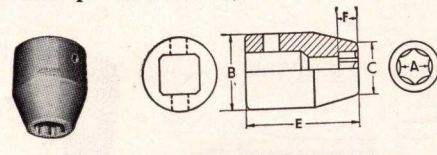


Standard Length

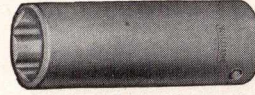


Bolt Clearance Length

Standard Length



Standard Length Surface Drive



Bolt Clearance Length—Surface Drive



Standard Length Surface Drive

Nominal Opening	No.	Amer. Std. Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Length Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
A										

## STANDARD LENGTH—IMPACT DESIGN SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

1/2	5-616	1/4	5/16	5/16	3/8	1.315	.880	1-1/2	21/64	12
9/16	5-618	3/8	3/8	3/8	5/16	1.315	.940	1-1/2	13/32	12
5/8	5-620	7/16	7/16	3/8	3/8	1.315	1.019	1-1/2	29/64	12
11/16	5-622	3/8	1/2	1/2	7/16	1.315	1.101	1-1/2	29/64	12
3/4	5-624	7/16	1/2	1/2	7/16	1.315	1.183	1-1/2	9/16	12
25/32	5-625	7/16	9/16	9/16	1/2	1.315	1.237	1-1/2	7/16	12
13/16	5-626	7/16	5/8	5/8	9/16	1.315	1.265	1-1/2	7/16	12
7/8	5-628	1/2	5/8	5/8	9/16	1.315	1.378	1-5/8	39/64	12
15/16	5-630	3/4	5/8	5/8	9/16	1.315	1.440	1-3/4	23/32	12
1	5-632	3/4	5/8	5/8	9/16	1.503	1.503	1-3/4	35/64	6
1 1/16	5-634	5/8	7/8	7/8	3/4	1.503	1.628	2	13/16	6
1 1/8	5-636	7/8	7/8	7/8	3/4	1.503	1.690	2	21/32	6
1 3/16	5-638	7/8	7/8	7/8	3/4	1.503	1.753	2	21/32	6
1 1/4	5-640	3/4	7/8	7/8	3/4	1.503	1.815	2	21/32	6
1 5/16	5-642	1	1	1	7/8	1.503	1.853	2-1/8	49/64	6
1 3/8	5-644	7/8	1	1	7/8	1.503	1.936	2-1/8	49/64	6
1 7/16	5-646	7/8	1	1	7/8	1.503	2.003	2-1/4	49/64	6
1 1/2	5-648	1-1/8	1	1	1	1.503	2.090	2-3/8	7/8	6

## STANDARD LENGTH—ALTERNATE DESIGN SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

9/16	A5-618	3/8	3/8	5/16	1.190	.851	1-1/2	13/32	12
19/32	A5-619	5/16	5/16	3/8	1.190	.899	1-1/2	5/16	12
5/8	A5-620	7/16	7/16	3/8	1.190	.940	1-1/2	29/64	12
11/16	A5-622	3/8	1/2	1/2	1.190	1.018	1-1/2	29/64	12
3/4	A5-624	7/16	1/2	1/2	1.190	1.108	1-1/2	9/16	12
13/16	A5-626	9/16	1/2	1/2	1.190	1.190	1-1/2	7/16	12
7/8	A5-628	1/2	5/8	5/8	1.271	1.271	1-5/8	39/64	12
15/16	A5-630	5/8	5/8	5/8	1.357	1.357	2	23/32	12
1	A5-632	3/4	5/8	5/8	1.440	1.440	2	35/64	6
1 1/16	A5-634	5/8	7/8	7/8	1.525	1.525	2	13/16	6
1 1/8	A5-636	7/8	7/8	7/8	1.608	1.608	2	21/32	6
1 1/4	A5-640	3/4	7/8	7/8	1.777	1.777	2	21/32	6

## STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS

Finish—Rust Resistant

9/16	5-818	3/8	3/8	5/16	1.190	1.014	1-1/2	17/64	6
5/8	5-820	7/16	7/16	3/8	1.190	1.128	1-1/2	21/64	6
11/16	5-822	3/8	1/2	1/2	1.253	1.253	1-1/2	21/64	6
3/4	5-824	7/16	1/2	1/2	1.315	1.315	1-1/2	3/8	6
13/16	5-826	9/16	1/2	1/2	1.407	1.407	1-1/2	7/16	6
7/8	5-828	1/2	5/8	5/8	1.516	1.516	1-1/2	1/2	6
15/16	5-830	5/8	5/8	5/8	1.614	1.614	1-3/4	1/2	6
1	5-832	3/4	5/8	5/8	1.719	1.719	1-3/4	35/64	6
1 1/16	5-834	5/8	3/4	3/4	1.836	1.836	2	35/64	6
1 1/8	5-836	3/4	3/4	3/4	1.933	1.933	2	21/32	6

## BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

9/16	15-618	3/8	3/8	5/16	1.190	.851	3-1/4	13/32	6
5/8	15-620	7/16	7/16	3/8	1.190	.940	3-1/4	29/64	6
11/16	15-622	3/8	1/2	1/2	1.190	1.018	3-1/4	29/64	6
3/4	15-624	7/16	1/2	1/2	1.190	1.108	3-1/4	9/16	6
13/16	15-626	9/16	1/2	1/2	1.190	1.190	3-1/4	7/16	6
7/8	15-628	1/2	5/8	5/8	1.276	1.276	3-1/2	39/64	6
15/16	15-630	5/8	5/8	5/8	1.357	1.357	3-1/2	23/32	6
1	15-632	3/4	5/8	5/8	1.440	1.440	3-1/2	35/64	4
1 1/16	15-634	5/8	7/8	7/8	1.525	1.525	3-1/2	13/16	4
1 1/8	15-636	7/8	7/8	7/8	1.628	1.628	3-1/2	21/32	4
1 3/16	15-638	7/8	7/8	7/8	1.690	1.690	3-1/2	21/32	4
1 1/4	15-640	3/4	7/8	7/8	1.774	1.774	3-1/2	21/32	4
1 5/16	15-642	1	7/8	7/8	1.853	1.853	3-1/2	49/64	4
1 3/8	15-644	1	7/8	7/8	1.940	1.940	3-1/2	49/64	4

Nominal Opening	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Length Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
A										

## STANDARD LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/8	A5-620A	3/8	7/16	7/16	3/8	1.190	.940	1-1/2	29/64	12
11/16	A5-622A	3/8	1/2	1/2	7/16	1.190	1.018	1-1/2	29/64	12
3/4	A5-624A	7/16	1/2	1/2	7/16	1.190	1.108	1-1/2	9/16	12
13/16	A5-626A	9/16	1/2	1/2	7/16	1.190	1.190	1-1/2	7/16	12
7/8	A5-628A	1/2	5/8	5/8	9/16	1.271	1.271	1-5/8	39/64	12
15/16	A5-630A	5/8	5/8	5/8	9/16	1.357	1.357	2	23/32	12
1	A5-632A	3/4	5/8	5/8	9/16	1.440	1.440	2	35/64	6
1 1/16	A5-634A	5/8	7/8	7/8	3/4	1.525	1.525	2	13/16	6
1 1/8	A5-636A	7/8	7/8	7/8	3/4	1.608	1.608	2	21/32	6
1 1/4	A5-640A	3/4	7/8	7/8	3/4	1.777	1.777	2	21/32	6

## BOLT CLEARANCE LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/8	A15-620A	7/16	7/16	3/8	1.190	.940	3-1/4	29/64	6
11/16	A15-622A	3/8	1/2	1/2	1.190	1.018	3-1/4	29/64	6
3/4	A15-624A	7/16	1/2	1/2	1.190	1.108	3-1/2	9/16	6
13/16	A15-626A	9/16	1/2	1/2	1.190	1.190	3-1/2	7/16	6
7/8	A15-628A	1/2	5/8	5/8	1.276	1.276	3-1/2	39/64	6
1	A15-632A	3/4	5/8	5/8	1.440	1.440	3-1/2	35/64	4

## "5" SERIES ACCESSORIES

For replacement locking device parts see listing on Page 27.

### ADAPTERS



Male Squares have Ball Plunger

No.	Length	Square Female	Square Male	Std. Pkg.
5-4B	1-7/8	5/8	1/2	6
5-6B	2	5/8	3/4	6

### EXTENSIONS



No. Male Squares have thru pin hole	No. Male Squares have spring plunger	No. Male Squares have ball plunger	Length	Square Male	Square Female	Std. Pkg.
5-106	5-106A	5-106B	6	5/8	5/8	6
5-110	5-110A	5-110B	10	5/8	5/8	6

### HEXAGON—SQUARE SHANKS



No. Male Squares have thru pin hole	No. Male Squares have spring plunger	Length	Square Male	Hex. Male	Std. Pkg.
5-53	5-53A	3	5/8	5/8	6
5-55	5-55A	5	5/8	5/8	6
5-57	5-57A	8	5/8	5/8	6
5-63	5-63A	3	5/8	3/4	6

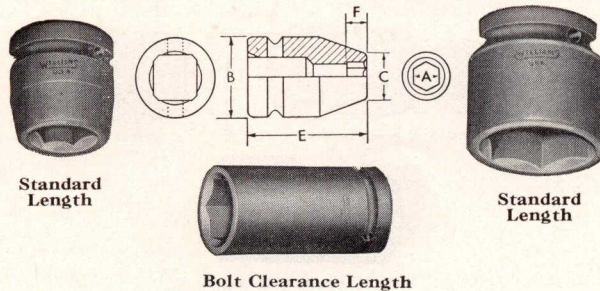
See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS FOR ALL TYPES OF IMPACT WRENCHES USED IN PRODUCTION AND MAINTENANCE

## "6" SERIES — 3/4" SQUARE DRIVE

(Male Square .757-.759 Female Square .759-.764)



Standard Length

Standard Length

Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Length Overall E	Nominal Dimensions Depth Opening F	Std. Pkg.
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### STANDARD LENGTH—SINGLE HEXAGON OPENINGS Finish—Rust Resistant

1/2	6-616	1/4	5/16	5/16	5/16	1.628	.940	1-3/4	21/64	6
9/16	6-618		3/8	3/8	5/16	1.628	1.003	1-3/4	13/32	6
19/32	6-619	5/16				1.628	1.065	1-3/4	5/16	6
5/8	6-620		7/16	7/16	3/8	1.628	1.096	1-3/4	29/64	6
11/16	6-622	3/8				1.628	1.159	1-3/4	29/64	6
3/4	6-624		1/2	1/2	7/16	1.628	1.253	1-3/4	9/16	6
25/32	6-625	7/16				1.628	1.284	1-3/4	7/16	6
13/16	6-626		9/16	9/16	1/2	1.628	1.378	1-7/8	7/16	6
7/8	6-628	1/2	5/8	5/8	9/16	1.628	1.503	1-7/8	39/64	6
15/16	6-630					1.628	1.565	2	23/32	6
1	6-632		3/4	3/4	5/8	1.628	1.628	2	35/64	4
1 1/16	6-634	5/8				1.628	1.690	2	13/16	4
1 1/8	6-636		7/8	7/8	3/4	1.628	1.753	2-1/8	21/32	4
1 3/16	6-638					1.628	1.878	2-1/8	21/32	4
1 1/4	6-640	3/4				1.753	2.003	2-1/8	21/32	4
1 5/16	6-642		1	7/8	7/8	1.753	2.065	2-1/4	49/64	4
1 3/8	6-644					1.753	2.128	2-1/4	49/64	4
1 7/16	6-646	7/8				1.753	2.253	2-1/4	49/64	4
*1 1/2	6-648		1-1/8	1	1	1.753	2.315	2-3/8	7/8	4
1 5/8	6-652	1				1.878	2.440	2-3/8	7/8	4
1 11/16	6-654		1-1/4	1-1/8	1-1/8	1.878	2.503	2-3/8	1	4

### STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS Finish—Rust Resistant

1/2	6-416	1/4	5/16	5/16	5/16	1.628	1.065	1-5/8	7/32	6
9/16	6-418		3/8	3/8	5/16	1.628	1.159	1-5/8	17/64	6
5/8	6-420		7/16	7/16	3/8	1.628	1.253	1-5/8	21/64	6
3/4	6-424		1/2	1/2	7/16	1.628	1.503	1-3/4	3/8	6
*13/16	6-426				1/2	1.628	1.628	1-7/8	5/8	6
13/16	6-826				1/2	1.628	1.628	1-7/8	7/16	6
7/8	6-828	1/2	9/16	9/16	1/2	1.628	1.753	1-7/8	1/2	6
15/16	6-830		5/8	5/8		1.628	1.815	1-7/8	1/2	6
1	6-832				5/8	1.628	1.940	2	35/64	6
1 1/16	6-834	5/8			3/4	1.753	2.003	2	35/64	6
1 1/8	6-836				3/4	1.753	2.128	2-1/8	21/32	6
1 3/16	6-838					1.753	2.253	2-1/8	21/32	6
1 1/4	6-840	3/4			7/8	1.753	2.378	2-1/8	21/32	6
1 5/16	6-842				7/8	1.753	2.503	2-1/4	49/64	6
1 7/16	6-846	7/8			1	1.753	2.628	2-1/4	49/64	6

### BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS Finish—Rust Resistant

9/16	16-618	3/8	3/8	5/16	5/16	1.628	1.003	3-1/4	13/32	6
5/8	16-620	7/16	7/16	3/8	3/8	1.628	1.096	3-1/4	29/64	6
11/16	16-622	3/8				1.628	1.159	3-1/4	29/64	6
3/4	16-624		1/2	1/2	7/16	1.628	1.253	3-1/4	9/16	6
13/16	16-626		9/16	9/16	1/2	1.628	1.378	3-1/4	7/16	6
7/8	16-628	1/2	5/8	5/8	9/16	1.628	1.503	3-1/2	39/64	6
15/16	16-630					1.628	1.565	3-1/2	23/32	6
1	16-632		3/4	3/4	5/8	1.628	1.628	3-1/2	35/64	4
1 1/16	16-634	5/8				1.628	1.690	3-1/2	13/16	4
1 1/8	16-636		7/8	7/8	3/4	1.628	1.753	3-1/2	21/32	4
1 3/16	16-638					1.628	1.878	3-1/2	21/32	4
1 1/4	16-640	3/4			7/8	1.753	2.003	3-1/2	21/32	4
1 5/16	16-642		1	7/8	7/8	1.753	2.065	3-1/2	49/64	4
1 7/16	16-646	7/8				1.753	2.253	3-1/2	49/64	4
*1 1/2	16-648		1-1/8	1	1	1.753	2.315	3-1/2	7/8	4
1 5/8	16-652	1				1.753	2.440	3-1/2	7/8	4

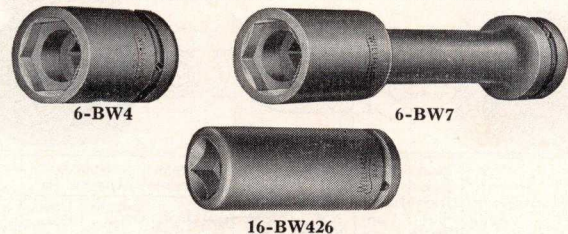
\* Can be used for servicing Standard Budd Wheels.

† These Sockets have single square openings.

For Retainer Pins and "O" Rings to fit above Sockets see Page 27.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## FOR SERVICING BUDD WHEELS



6-BW4

6-BW7

16-BW426

Sockets 6-BW4 and 6-BW7, illustrated above, each have two openings (13/16" square and 1-1/2" hexagon) in the same socket. They are designed for quick application and removal of all "on-the-road" Budd type wheels. Their use eliminates the need of two separate sockets. Two lengths are available.

For service checking the tightness of installed wheels, the 1-1/2" hexagon opening of either 6-BW4 or 6-BW7 (in place of bolt clearance 1-1/2" hexagon socket 16-648) may be used with 6-426 or 16-BW426 (a long 13/16" square opening socket, illustrated above) to tighten the square-ended Budd stud separately. For Budd Wheel sockets in 1" square drive series see page 27.

No.	Length	"O" Type Ring	RETAINER PINS Type	Length	Std. Pkg.
6-BW4	4	B1	D	1-7/8	4
6-BW7	7-1/2	A1	C	1-1/2	2
16-BW426	4	A1	B	1-1/8	4

## "6" SERIES ACCESSORIES

For replacement locking device parts see listing on Page 27.



No. Male Squares have thru pin hole	No. Male Squares have ball plunger	Length	Square Female	Square Male	Std. Pkg.
6-5B	6-7B	2-1/8	3/4	5/8	4
6-7	6-7B	2-1/2	3/4	1	4

## EXTENSIONS



No. Male Squares have thru pin hole	No. Male Squares have ball plunger	Length	Square Male	Square Female	Std. Pkg.
6-107	6-107B	7	3/4	3/4	4
6-110	6-110B	10	3/4	3/4	4
6-113	6-113B	13	3/4	3/4	4

## HEXAGON—SQUARE SHANKS



No. Male Squares have thru pin hole	Length	Square Male	Hex Male	Std. Pkg.
6-63	3	3/4	3/4	4

For Retainer Pins and "O" Rings to fit above Sockets, Adapters and Extensions see Page 27.

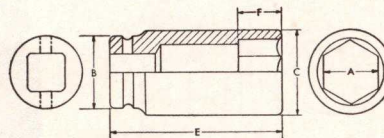
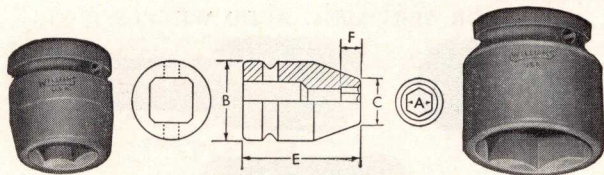


# WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF IMPACT WRENCHES USED IN PRODUCTION AND MAINTENANCE

"7" SERIES — 1" SQUARE DRIVE

(Male Square 1.007-1.009 Female Square 1.009-1.014)



Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw Diam.	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Length Over-all E	Nominal Dimensions Depth Opening F	Std. Pkg.
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## STANDARD LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/4	7-624	1/2	5/8	3/4	7/16	2.003	1.440	2-1/16	9/16	1
25/32	7-625	7/16	9/16	1/2	7/16	2.003	1.440	2-1/16	7/16	1
13/16	7-626	9/16	5/8	1/2	7/16	2.003	1.503	2-1/8	7/16	1
7/8	7-628	1/2	5/8	9/16	7/16	2.003	1.534	2-3/16	39/64	1
15/16	7-630	9/16	5/8	1/2	7/16	2.003	1.596	2-3/16	23/32	1
1	7-632	3/4	3/4	5/8	7/16	2.003	1.753	2-1/4	35/64	1
1 1/16	7-634	5/8	3/4	3/4	7/16	2.003	1.753	2-1/4	13/16	1
1 1/8	7-636	7/8	3/4	3/4	7/16	2.128	1.815	2-3/8	21/32	1
1 3/16	7-638	7/8	3/4	3/4	7/16	2.128	1.878	2-7/16	21/32	1
1 1/4	7-640	3/4	7/8	7/8	7/16	2.128	2.003	2-7/16	21/32	1
1 5/16	7-642	1	7/8	7/8	7/16	2.128	2.065	2-9/16	49/64	1
1 3/8	7-644	7/8	1	1	7/16	2.253	2.128	2-9/16	49/64	1
1 7/16	7-646	7/8	1	1	7/16	2.253	2.253	2-9/16	49/64	1
1 1/2	7-648	1-1/8	1	1	7/16	2.253	2.315	2-5/8	7/8	1
1 9/16	7-650	1-1/8	1-1/8	1-1/8	7/16	2.253	2.378	2-5/8	7/8	1
1 5/8	7-652	1	1-1/8	1-1/8	7/16	2.253	2.440	2-5/8	7/8	1
1 11/16	7-654	1-1/4	1-1/4	1-1/4	7/16	2.253	2.565	2-11/16	1	1
1 3/4	7-656	1-1/4	1-1/4	1-1/4	7/16	2.253	2.628	2-11/16	1	1
1 13/16	7-658	1-1/4	1-1/4	1-1/4	7/16	2.253	2.753	2-3/4	1	1
1 7/8	7-660	1-1/4	1-1/4	1-1/4	7/16	2.253	2.753	2-7/8	1-3/32	1
1 15/16	7-662	1-1/4	1-1/4	1-1/4	7/16	2.253	2.878	2-7/8	1-3/32	1
2	7-664	1-1/4	1-3/8	1-3/8	7/16	2.253	3.003	2-15/16	1-3/32	1
2 1/16	7-666	1-3/8	1-3/8	1-3/8	7/16	2.253	3.003	3-1/16	1-13/64	1
2 1/8	7-668	1-3/8	1-3/8	1-3/8	7/16	2.378	3.128	3-1/8	1-13/64	1
2 3/16	7-670	1-3/8	1-1/2	1-1/2	7/16	2.378	3.253	3-1/8	1-13/64	1
2 1/4	7-672	1-1/2	1-1/2	1-1/2	7/16	2.378	3.253	3-1/4	1-5/16	1
2 5/16	7-674	1-1/2	1-1/2	1-1/2	7/16	2.378	3.378	3-5/16	1-5/16	1
2 3/8	7-676	1-1/2	1-1/2	1-1/2	7/16	2.378	3.503	3-5/16	1-5/16	1
2 7/16	7-678	1-1/2	1-5/8	1-5/8	7/16	2.378	3.503	3-1/2	1-25/64	1
2 1/2	7-680	1-5/8	1-5/8	1-5/8	7/16	2.378	3.628	3-1/2	1-25/64	1
2 9/16	7-682	1-5/8	1-5/8	1-5/8	7/16	2.378	3.753	3-1/2	1-25/64	1
2 5/8	7-684	1-5/8	1-3/4	1-3/4	7/16	2.378	3.753	3-11/16	1-1/2	1
2 11/16	7-686	1-3/4	1-3/4	1-3/4	7/16	2.378	3.878	3-11/16	1-1/2	1
2 3/4	7-688	1-3/4	1-3/4	1-3/4	7/16	2.378	3.878	3-11/16	1-1/2	1
2 13/16	7-690	1-3/4	1-7/8	1-7/8	7/16	2.378	4.003	3-7/8	1-39/64	1
2 7/8	7-692	1-7/8	1-7/8	1-7/8	7/16	2.378	4.003	3-15/16	1-39/64	1
2 15/16	7-694	1-7/8	1-7/8	1-7/8	7/16	2.378	4.128	3-15/16	1-39/64	1
3	7-696	2	2	2	7/16	2.378	4.253	4-1/16	1-23/32	1
3 1/8	7-6100	2	2	2	7/16	2.378	4.378	4-1/8	1-23/32	1
3 1/4	7-6104	2	2	2	7/16	2.378	4.503	4-1/8	1-23/32	1
3 3/8	7-6108	2-1/4	2-1/4	2-1/4	7/16	2.378	4.628	4-1/2	1-59/64	1
3 1/2	7-6112	2-1/4	2-1/4	2-1/4	7/16	2.378	4.753	4-1/2	1-59/64	1
3 5/8	7-6116	2-1/4	2-1/4	2-1/4	7/16	2.378	4.878	4-1/2	1-59/64	1

## STANDARD LENGTH—SQUARE (4 PT.) AND DOUBLE SQUARE (8 PT.) OPENINGS

Finish—Rust Resistant

3/4	7-424	1/2	5/8	3/4	7/16	2.003	1.878	2-1/8	3/8	1
25/32	7-425	7/16	9/16	1/2	7/16	2.003	1.940	2-1/8	3/8	1
13/16	7-426	9/16	5/8	1/2	7/16	2.003	1.940	2-1/8	7/16	1
7/8	7-428	1/2	5/8	9/16	7/16	2.003	2.003	2-1/4	1/2	1
15/16	7-430	9/16	5/8	1/2	7/16	2.128	2.065	2-1/4	1/2	1
1	7-432	3/4	3/4	5/8	7/16	2.128	2.128	2-5/16	35/64	1
1 1/16	7-434	5/8	3/4	3/4	7/16	2.128	2.128	2-5/16	35/64	1
1 1/8	7-436	7/8	3/4	3/4	7/16	2.253	2.253	2-1/2	21/32	1
1 3/16	7-838	7/8	7/8	7/8	7/16	2.253	2.315	2-1/2	21/32	1
1 1/4	7-840	3/4	7/8	7/8	7/16	2.253	2.378	2-1/2	21/32	1
1 5/16	7-842	3/4	7/8	7/8	7/16	2.253	2.565	2-1/2	49/64	1
1 3/8	7-844	7/8	1	1	7/16	2.253	2.628	2-1/2	49/64	1
1 7/16	7-846	7/8	1	1	7/16	2.253	2.628	2-1/2	49/64	1
1 1/2	7-848	1	1	1	7/16	2.253	2.753	2-5/8	7/8	1
1 9/16	7-850	1	1-1/8	1-1/8	7/16	2.253	2.878	2-5/8	7/8	1
1 5/8	7-852	1	1-1/8	1-1/8	7/16	2.253	3.003	2-5/8	7/8	1
1 11/16	7-854	1	1-1/8	1-1/8	7/16	2.253	3.128	2-13/16	1	1
1 3/4	7-856	1-1/8	1-1/4	1-1/4	7/16	2.253	3.253	2-13/16	1	1
1 13/16	7-858	1-1/8	1-1/4	1-1/4	7/16	2.253	3.253	2-13/16	1	1
1 7/8	7-860	1-1/8	1-1/4	1-1/4	7/16	2.253	3.378	3-1/8	1-3/32	1
1 15/16	7-862	1-1/4	1-3/8	1-3/8	7/16	2.253	3.503	3-1/8	1-3/32	1
2	7-864	1-1/4	1-3/8	1-3/8	7/16	2.253	3.628	3-1/8	1-3/32	1
2 1/16	7-866	1-3/8	1-3/8	1-3/8	7/16	2.253	3.628	3-1/4	1-13/64	1
2 1/8	7-868	1-3/8	1-3/8	1-3/8	7/16	2.253	3.753	3-1/4	1-13/64	1
2 3/16	7-870	1-3/8	1-1/2	1-1/2	7/16	2.253	3.878	3-1/4	1-13/64	1
2 1/4	7-872	1-1/2	1-1/2	1-1/2	7/16	2.253	3.878	3-7/16	1-5/16	1
2 5/16	7-874	1-1/2	1-1/2	1-1/2	7/16	2.378	4.003	3-7/16	1-5/16	1
2 3/8	7-876	1-1/2	1-1/2	1-1/2	7/16	2.378	4.128	3-1/2	1-5/16	1
2 3/4	7-888	1-1/2	1-1/2	1-1/2	7/16	2.378	4.503	3-7/8	1-1/2	1

† These sockets have single square openings.  
For Retainer Pins and "O" Rings to fit above Sockets see Page 27.

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw Diam.	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Maximum Dimensions Dia. Nose C	Nominal Dimensions Length Over-all E	Nominal Dimensions Depth Opening F	Std. Pkg.
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## BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/4	17-624	1/2	5/8	3/4	7/16	2.003	1.440	3	9/16	1
25/32	17-625	7/16	9/16	1/2	7/16	2.003	1.440	3	7/16	1
13/16	17-626	9/16	5/8	1/2	7/16	2.003	1.440	3	7/16	1
7/8	17-628	1/2	5/8	9/16	7/16	2.003	1.440	3	39/64	1
15/16	17-630	9/16	5/8	1/2	7/16	2.003	1.596	3	23/32	1
1	17-632	3/4	3/4	5/8	7/16	2.003	1.753	3	35/64	1
1 1/16	17-634	5/8	3/4	3/4	7/16	2.003	1.753	3	13/16	1
1 1/8	17-636	7/8	3/4	3/4	7/16	2.128	1.815	3	21/32	1
1 3/16	17-638	7/8	3/4	3/4	7/16	2.128	1.878	3	21/32	1
1 1/4	17-640	3/4	7/8	7/8	7/16	2.128	2.003	3	21/32	1
1 5/16	17-642	1	7/8	7/8	7/16	2.128	2.065	3-1/2	49/64	1
1 3/8	17-644	7/8	1	1	7/16	2.253	2.128	3-1/2	49/64	1
1 7/16	17-646	7/8	1	1	7/16	2.253	2.253	3-1/2	49/64	1
* 1 1/2	17-648	1-1/8	1	1	7/16	2.253	2.315	3-1/2	7/8	1
1 9/16	17-650	1-1/8	1-1/8	1-1/8	7/16	2.253	2.378	3-1/2	7/8	1
1 5/8	17-652	1	1-1/8	1-1/8	7/16	2.253	2.440	3-1/2	7/8	1
1 11/16	17-654	1-1/4	1-1/4	1-1/4	7/16	2.253	2.565	3-5/8	1	1
1 3/4	17-656	1-1/4	1-1/4	1-1/4	7/16	2.253	2.625	3-5/8	1	1
1 13/16	17-658	1-1/4	1-1/4	1-1/4	7/16	2.253	2.753	3-5/8	1	1
1 7/8	17-660	1-1/4	1-1/4	1-1/4	7/16	2.253	2.753	3-7/8	1-3/32	1
1 15/16	17-662	1-1/4	1-1/4	1-1/4	7/16	2.253	2.878	3-7/8	1-3/32	1
2	17-664	1-1/4	1-3/8	1-3/8	7/16	2.253	3.003	3-7/8	1-3/32	1
2 1/16	17-666	1-3/8	1-3/8	1-3/8	7/16	2.253	3.003	4-1/8	1-13/64	1
2 1/8	17-668	1-3/8	1-3/8	1-3/8	7/16	2.378	3.128	4-1/8	1-13/64	1
2 3/16	17-670	1-3/8	1-1/2	1-1/2	7/16	2.378	3.253	4-1/8	1-13/64	1
2 1/4	17-672	1-1/2	1-1/2	1-1/2	7/16	2.378	3.253	4-3/8	1-5/16	1
2 5/16	17-674	1-1/2	1-1/2	1-1/2	7/16	2.378	3.378	4-3/8	1-5/16	1
2 3/8	17-676	1-1/2	1-1/2	1-1/2	7/16	2.378	3.503	4-3/8	1-5/16	1

## BOLT CLEARANCE LENGTH—SQUARE (4 PT.) AND DOUBLE SQUARE (8 PT.) OPENINGS

Finish—Rust Resistant

3/4	17-424			1/2	7/16	2.003	1.878	3	3/8	1
25/32	17-425	7/16				2.003	1.940	3	3/8	1
13/16	17-426				1/2	2.003	1.940	3	7/16	1
7/8	17-427	1/2		9/16	9/16	2.003	2.003	3	1/2	1
15/16	17-430			5/8		2.128	2.065	3	1/2	1
1	17-432				5/8	2.128	2.128	3	35/64	1
1	17-434	5/8		3/4		2.128	2.128	3	35/64	1
1	17-436				3/4	2.253	2.253	3	21/32	1
1	17-838					2.253	2.315	3	21/32	1
1	17-840	3/4		7/8		2.253	2.378	3	21/32	1
1	17-842				7/8	2.253	2.565	3-1/2	49/64	1
1	17-844					2.253	2.628	3-1/2	49/64	1
1	17-846	7/8		1		2.253	2.628	3-1/2	49/64	1
1	17-848				1	2.253	2.753	3-1/2	7/8	1
1	17-850					2.253	2.878	3-1/2	7/8	1
1	17-852	1		1-1/8		2.253	3.003	3-1/2	7/8	1
1	17-854				1-1/8	2.253	3.128	3-5/8	1	1
1	17-856					2.253	3.253	3-5/8	1	1
1	17-858	1-1/8		1-1/4		2.253	3.253	3-5/8	1	1
1	17-860				1-1/4	2.253	3.378	3-7/8	1- 3/32	1
1	17-862					2.253	3.503	3-7/8	1- 3/32	1
2	17-864			1-3/8		2.253	3.628	3-7/8	1- 3/32	1
2	17-866				1-3/8	2.253	3.628	4-1/8	1-13/64	1
2	17-868					2.253	3.753	4-1/8	1-13/64	1
2	17-870	1-3/8		1-1/2		2.253	3.878	4-1/8	1-13/64	1
2	17-872				1-1/2	2.253	3.878	4-3/8	1- 5/16	1
2	17-874					2.378	4.003	4-3/8	1- 5/16	1
2	17-876	1-1/2				2.378	4.128	4-3/8	1- 5/16	1



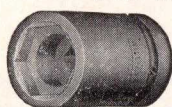
## WILLIAMS' INDUSTRIAL SOCKETS AND ATTACHMENTS

FOR ALL TYPES OF IMPACT WRENCHES USED IN PRODUCTION AND MAINTENANCE

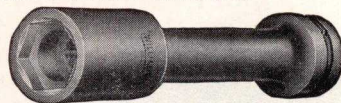
**"7" SERIES — 1" SQUARE DRIVE**

(Male Square 1.007-1.009 Female Square 1.009-1.014)

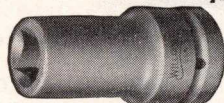
FOR SERVICING BUDD WHEELS



7-BW4



7-BW9



17-BW426

Sockets 7-BW4 and 7-BW9, illustrated above, each have two openings (13/16" square and 1-1/2" hexagon) in the same socket. They are designed for quick application and removal of all "on-the-road" Budd type wheels. Their use eliminates the need of two separate sockets. Two lengths are available.

For service checking the tightness of installed wheels, the 1-1/2" hexagon opening of either 7-BW4 or 7-BW9 (in place of bolt clearance 1-1/2" hexagon socket 17-648) may be used with 17-BW426 (a long 13/16" square opening socket, illustrated above) to tighten the square-ended Budd stud separately. For Budd Wheel sockets in 3/4" square drive series see Page 25.

No.	Length	"O" Type Ring	RETAINER PINS Type	Length	Std. Pkg.
7-BW4	4"	B1	D	1-7/8	1
7-BW9	9"	B1	D	1-7/8	1
17-BW426	4"	B1	D	1-7/8	1

**"7" SERIES ACCESSORIES**

For replacement locking device parts see listing below.

**ADAPTERS**

No. Male Squares have thru pin hole	No. Male Squares have ball plunger	Length	Square Female	Square Male	Std. Pkg.
7-6	7-6B	3	1	3/4	1
7-8	.....	3-9/16	1	1-1/2	1

**EXTENSIONS**

No. Male Squares have thru pin hole	No. Male Squares have ball plunger	Length	Square Male	Square Female	Std. Pkg.
7-107	7-107B	7	1	1	1
7-112	7-112B	12	1	1	1

**HEXAGON—SQUARE SHANKS**

Male squares have through pin hole

No.	Length	Square Male	Hex Male	Std. Pkg.
7-64	3-9/16	1	3/4	1

For Retainer Pins and "O" Rings to fit above Adapters and Extensions see table on this page.

**REPLACEMENT LOCKING DEVICE PARTS**

Pin Plunger



Ball Plunger



Spring



Plug

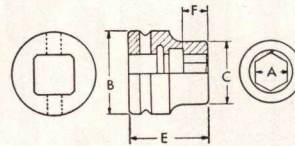
Sets consisting of a plunger, spring and brass plug are packed 24 sets to a box.

Type Plunger	Set Number for Square Drive Size				
	1/4"	3/8"	1/2 and 5/8"	3/4"	1"
Pin	PA-O-P	PA-2-P	PA-45-P	PA-6-B	PA-7-B
Ball	.....	.....	PA-45-B	.....	.....

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

**"8" SERIES — 1-1/2" SQUARE DRIVE**

(Male Square 1.503-1.505 Female Square 1.505-1.510)



Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. HxHd. Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions Dia. Drive End B	Dia. Nose C	Nominal Dimensions Length Overall E	Depth Opening F	Std. Pkg.
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**STANDARD LENGTH—SINGLE HEXAGON OPENINGS**

Finish—Rust Resistant

1 5/16	8-642	.....	1	.....	7/8	3 253	2 503	3-1/8	49/64	1
1 3/8	8-644	.....	.....	.....	.....	3 253	2 753	3-1/8	49/64	1
1 7/16	8-646	.....	7/8	1	.....	3 253	2 753	3-1/8	49/64	1
1 1/2	8-648	.....	1-1/8	1	.....	3 253	2 878	3-1/8	7/8	1
1 5/8	8-652	1	.....	1-1/8	.....	3 253	3 003	3-1/8	7/8	1
1 11/16	8-654	.....	1-1/4	.....	1-1/8	3 253	3 003	3-1/8	1	1
1 13/16	8-658	1-1/8	.....	.....	.....	3 253	3 128	3-1/4	1	1
1 7/8	8-660	.....	.....	.....	1-1/4	3 253	3 128	3-1/4	1- 3/32	1
2	8-664	1-1/4	.....	1-3/8	.....	3 253	3 253	3-3/4	1- 3/32	1
2 1/16	8-666	.....	.....	.....	1-3/8	3 253	3 503	3-7/8	1-13/64	1
2 1/8	8-668	.....	.....	.....	.....	3 253	3 503	3-7/8	1-13/64	1
2 3/16	8-670	1-3/8	.....	1-1/2	.....	3 253	3 503	3-7/8	1-13/64	1
2 1/4	8-672	.....	.....	.....	1-1/2	3 253	3 753	4	1- 5/16	1
2 3/8	8-676	1-1/2	.....	.....	.....	3 253	3 878	4-1/8	1- 5/16	1
2 7/16	8-678	.....	.....	.....	1-5/8	3 253	3 878	4-1/8	1-25/64	1
2 9/16	8-682	1-5/8	.....	.....	.....	3 253	4 003	4-1/4	1-25/64	1
2 5/8	8-684	.....	.....	.....	1-3/4	3 253	4 128	4-1/4	1- 1/2	1
2 3/4	8-688	1-3/4	.....	.....	.....	3 253	4 253	4-3/8	1- 1/2	1
2 15/16	8-694	1-7/8	.....	.....	.....	3 253	4 503	4-1/2	1-39/64	1
3	8-696	.....	.....	.....	2	3 253	4 503	4-5/8	1-23/32	1
3 1/8	8-6100	2	.....	.....	.....	3 253	4 753	4 5/8	1-23/32	1
3 3/8	8-6108	.....	.....	.....	2-1/4	3 253	5 003	4-5/8	1-59/64	1
3 1/2	8-6112	2-1/4	.....	.....	.....	3 253	5 128	4-5/8	1-59/64	1

**"8" SERIES ACCESSORIES****ADAPTERS****EXTENSIONS**

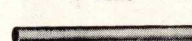
Male squares have through pin hole

No.	Lgth.	Square Female	Square Male	Std. Pkg.	No.	Lgth.	Square Male	Square Female	Std. Pkg.
8-7	4	1-1/2	1	1	8-106	6	1-1/2	1-1/2	1
					8-112	12	1-1/2	1-1/2	1

For Retainer Pins and "O" Rings to fit above Sockets, Adapters and Extensions see table below.

**RETAINER PINS AND "O" RINGS**

For "6", "7" and "8" SERIES

**Pins**

"O" Rings are specially designed for



resistance to oil and grease.

Retainer Pins are made of selected steel—oil finished.

Retainer Pins and "O" Rings are packaged separately, 24 of each to a box.

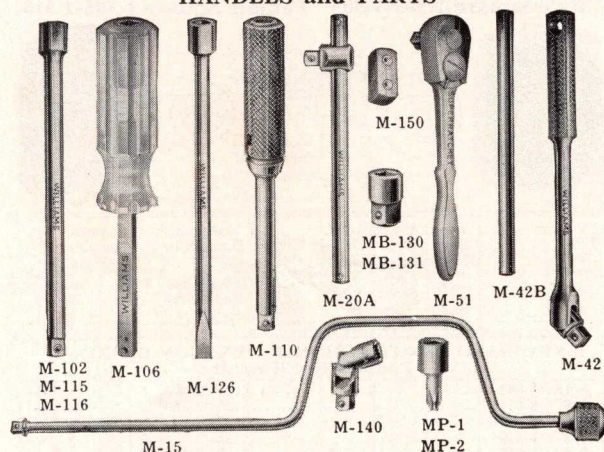
Square Drive Size	Socket and Extension Nos.	Retainer Pins		"O" Type Rings	
		Type	Length	Type	Diam.
3/4"	6-616 thru 6-638	B	1-1/8	A-1	1-7/16
	6-640 thru 6-654	C	1-1/2		
	6-416 thru 6-426	B	1-1/8		
	6-826 thru 6-830	B	1-1/8		
	6-832 thru 6-846	C	1-1/2		
	16-618 thru 16-638	B	1-1/8		
	16-640 thru 16-652	C	1-1/2		
	All Adapters	C	1-1/2		
	All Extensions	C	1-1/2		
	Fit all sizes	D	1-7/8	B-1	1-3/4
1"	Fit all sizes	E	2-7/8	C-1	2-7/8

Neoprene Bands for sockets in any drive size with band groove recess can be supplied on request.



## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel  
MIDGET PATTERN—1/4" SQUARE DRIVE  
HANDLES AND PARTS



MILITARY DESCRIPTION: MIL-W-15838A, GGG-W-641A

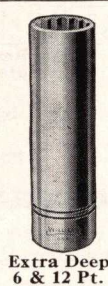
No.	PIECE	Std. Pkg.
M-15	Speeder—15-3/4" long; knurled revolving grip. . . . .	6
M-20A	Sliding T Handle—4-1/2" long. . . . .	6
M-42	Flex Handle only—5-3/4" long; flexible head, knurled grip, crosshole for use with Sliding Bar. . . . .	6
M-42B	Sliding Bar, 1/4" x 4-1/2", for M-42. . . . .	6
M-51	Reversible Ratchet—4-1/2" long. 24 teeth in Ratchet-gear instead of usual 14 to 20. Turning shift-lever reverses action instantly. . . . .	6
M-102	Extension—2" long. . . . .	6
M-106	Extension—Driver has plastic grip with 1/4" square drive-opening in end—6" long. . . . .	6
M-110	Extension—Driver has lockable-revolving, knurled handle with 1/4" sq. drive-opening in end. Use as an Extension with handy revolving grip for spinning nuts, or as a driver with handle locked. 5-3/8" long. . . . .	6
M-115	Extension—6" long. . . . .	6
M-116	Extension—14" long. . . . .	6
M-126	Regular Screw Driver Socket Attachment—6" long. . . . .	6
MB-130	Adapter—1/4" sq. female and 3/8" sq. male. Adapts Handles with 1/4" sq. drive to Sockets with 3/8" sq. dr. . . . .	6
MB-131	Adapter—1/4" sq. male and 3/8" sq. female. Adapts Sockets with 1/4" sq. drive to Handles with 3/8" sq. dr. . . . .	6
M-140	Universal Joint—Spring tension holds angle desired. . . . .	6
M-150	Plug Adapter 3/4" long; both ends 1/4" sq. male. . . . .	6
MP-1	Phillips Screw Driver Socket Attachment—No. 1 Phillips Drive to fit screws No. 4 and smaller. . . . .	6
MP-2	Phillips Screw Driver Socket Attachment—No. 2 Phillips Drive to fit screws Nos. 5 to 9 inclusive. . . . .	6

## SOCKETS

Williams Midget Electrical Sockets are unequalled in cramped quarters.

Their thin, straight walls enable them to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut.

Accurately made from Selected Alloy Steel, heat-treated and chrome-plated.



Reg. 6 & 12 Pt.

Reg. 4 & 8 Pt.

Extra Deep 6 & 12 Pt.

MILITARY DESCRIPTION:  
MIL-W-15838A, TYPE I, CLASS I, STYLE A (M-606-M-1216 & M-406-M-812)  
MIL-W-15838A, TYPE I, CLASS I, STYLE B (MD-606-MD-1216)  
GGG-W-641A, TABLE 2 (M-606-M-1216)  
GGG-W-641A, TABLE 3 (M-406-M-812)

Nominal Opening	6-Point Sockets		12-Point Sockets		Extra Deep 6 and 12-Point Sockets 2" Long		4 AND 8-POINT OPENINGS		Nominal Opening
	No.	Std. Pkg.	No.	Std. Pkg.	No.	Std. Pkg.	Socket No.	Std. Pkg.	
3/16	M-606	6					M-406	6	3/16
7/32	M-607	6					M-407	6	7/32
1/4	M-608	6			MD-608	6	M-408	6	1/4
9/32	M-609	6			MD-609	6	M-810	6	5/16
5/16			M-1210	6	MD-1210	6	M-812	6	3/8
11/32			M-1211	6	MD-1211	6			
3/8			M-1212	6	MD-1212	6			
7/16			M-1214	6	MD-1214	6			
1/2			M-1216	6	MD-1216	6			

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

MIDGET PATTERN—1/4" SQUARE DRIVE

## SET No. M-1

Complete in Metal Case  
11 Pieces  
9 Sockets and 2 Attachments



2 Color Steel Case  
1-1/8 x 2-1/8 x 7"

## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
M-606	3/16"— 6 Pt. Socket	M-1212	3/8"—12 Pt. Socket. . . .
M-607	7/32"— 6 Pt. Socket	M-1214	7/16"—12 Pt. Socket. . . .
M-608	1/4"— 6 Pt. Socket	M-1216	1/2"—12 Pt. Socket. . . .
M-609	9/32"— 6 Pt. Socket	M-20A	Sliding T Handle, 4-1/2".
M-1210	5/16"—12 Pt. Socket	M-106	Extension, Plastic Grip, 6"
M-1211	11/32"—12 Pt. Socket		

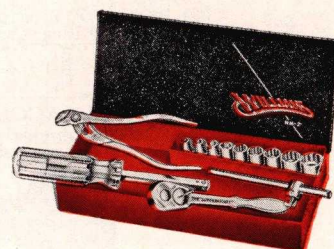
## SET No. M-2

Complete  
In Metal Case

13 Pieces

9 Sockets, 3 Attachments  
and 1 Plier

2 Color Steel Case  
1-1/8 x 3-1/4 x 7-1/2"



## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
M-606	3/16"— 6 Pt. Socket	M-1214	7/16"—12 Pt. Socket. . . .
M-607	7/32"— 6 Pt. Socket	M-1216	1/2"—12 Pt. Socket. . . .
M-608	1/4"— 6 Pt. Socket	M-20A	Sliding T Handle, 4-1/2".
M-609	9/32"— 6 Pt. Socket	M-51	Reversible Ratchet, 4-1/2"
M-1210	5/16"—12 Pt. Socket	M-106	Extension, Plastic Grip, 6"
M-1211	11/32"—12 Pt. Socket	1519	4-1/2" "Superpliers" . . . .
M-1212	3/8"—12 Pt. Socket		

## SET No. M-3

Complete in Metal Case

7 Pieces

6 Sockets and 1 Attachment



2 Color Steel Case  
1-1/8 x 2-1/8 x 7"

## CONTENTS

One Each No.	Description	One Each No.	Description
MD-608	1/4" 6 Pt. Deep Skt.	MD-1212	3/8" 12 Pt. Deep Skt.
MD-609	9/32" 6 Pt. Deep Skt.	MD-1214	7/16" 12 Pt. Deep Skt.
MD-1210	5/16" 12 Pt. Deep Skt.	M-106	Exten. Plastic Grip, 6"
MD-1211	11/32" 12 Pt. Deep Skt.		



**WILLIAMS' SUPERSOCKET® WRENCH SETS**

Selected Alloy Steel

**MIDGET PATTERN — 1/4" SQUARE DRIVE****SET No. M-4**  
**Complete in Metal Case**7 Pieces  
6 Sockets and 1 Attachment

Total Weight, 1 lb.

2 Color Steel Case Only

1-1/8 x 2-1/8 x 7"

Weight, 63 lb..

**CONTENTS**

One Each No.	Description	One Each No.	Description
MD-608	1/4" 6 Pt. Deep Skt.	MD-1212	3/8" 12 Pt. Deep Skt.
MD-609	9/32" 6 Pt. Deep Skt.	MD-1214	7/16" 12 Pt. Deep Skt.
MD-1210	5/16" 12 Pt. Deep Skt.	M-51	Revers. Ratchet, 4-1/2"
MD-1211	11/32" 12 Pt. Deep Skt.		

**SET No. M-5**  
**Complete in Metal Case**

17 Pieces

9 Sockets,

2 Attachments,

5 Wrenches and 1 Plier

Total Weight, 1.6 lbs.

2 Color Steel Case Only  
1-1/8 x 3-1/4 x 7-1/2"

Weight, .88 lb.

**CONTENTS**

One Ea. No.	Description	One Ea. No.	Description
M-606	3/16" 6 Pt. Socket	M-20A	Sliding T Handle, 4-1/2"
M-607	7/32" 6 Pt. Socket	M-106	Extension, Plastic Grip, 6"
M-608	1/4" 6 Pt. Socket	1519	4-1/2" "Superpliers" .....
M-609	9/32" 6 Pt. Socket	1106	13/64 & 7/32" Midget Wr.
M-1210	5/16" 12 Pt. Socket	1107	15/64 & 1/4" Midget Wr.
M-1211	11/32" 12 Pt. Socket	1108	9/32 & 11/32" Midget Wr.
M-1212	3/8" 12 Pt. Socket	1108A	1/4 & 5/16" Midget Wr.
M-1214	7/16" 12 Pt. Socket	1109	5/16 & 3/8" Midget Wr.
M-1216	1/2" 12 Pt. Socket		

**SET No. M-6**  
**Complete in Metal Case**

23 Pieces

14 Sockets, 3 Attachments,  
5 Wrenches and 1 Plier

Total Weight, 2.1 lbs.

2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

Weight, 1 lb.

**CONTENTS**

One Ea. No.	Description	One Ea. No.	Description
M-406	3/16" 4 Pt. Socket	M-1214	7/16" 12 Pt. Socket .....
M-407	7/32" 4 Pt. Socket	M-1216	1/2 " 12 Pt. Socket .....
M-408	1/4" 4 Pt. Socket	M-20A	Sliding T Handle, 4-1/2"
M-606	3/16" 6 Pt. Socket	M-51	Reversible Ratchet, 4-1/2"
M-607	7/32" 6 Pt. Socket	M-110	Extension Driver, 5-3/8" .....
M-608	1/4" 6 Pt. Socket	1519	4-1/2" "Superpliers" .....
M-609	9/32" 6 Pt. Socket	1106	13/64 & 7/32" Midget Wr.
M-810	5/16" 8 Pt. Socket	1107	15/64 & 1/4" Midget Wr.
M-812	3/8" 8 Pt. Socket	1108	9/32 & 11/32" Midget Wr.
M-1210	5/16" 12 Pt. Socket	1108A	1/4 & 5/16" Midget Wr.
M-1211	11/32" 12 Pt. Socket	1109	5/16 & 3/8" Midget Wr.
M-1212	3/8" 12 Pt. Socket		

**WILLIAMS' SUPERSOCKET® WRENCH SETS**

Selected Alloy Steel

**MIDGET PATTERN — 1/4" SQUARE DRIVE****SET No. M-7**  
**Complete in Metal Case**

22 Pieces

9 Sockets, 2 Attachments  
and 11 Wrenches

Total Weight, 1.8 lbs.

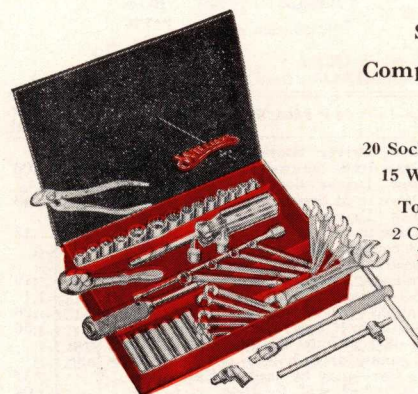
2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

Weight, .88 lb.

**CONTENTS**

One Each No.	Description	One Each No.	Description
M-606	3/16" 6 Pt. Socket .....	1112	3/16 & 3/16" Midget Wr.
M-607	7/32" 6 Pt. Socket .....	1113	13/64 & 13/64" Midget Wr.
M-608	1/4" 6 Pt. Socket .....	1114	7/32 & 7/32" Midget Wr.
M-609	9/32" 6 Pt. Socket .....	1115	15/64 & 15/64" Midget Wr.
M-1210	5/16" 12 Pt. Socket .....	1116	1/4 & 1/4" Midget Wr.
M-1211	11/32" 12 Pt. Socket .....	1118	9/32 & 9/32" Midget Wr.
M-1212	3/8" 12 Pt. Socket .....	1120	5/16 & 5/16" Midget Wr.
M-1214	7/16" 12 Pt. Socket .....	1122	11/32 & 11/32" Midget Wr.
M-1216	1/2" 12 Pt. Socket .....	1124	3/8 & 3/8" Midget Wr.
M-20A	Sliding T Handle, 4-1/2"	1128	7/16 & 7/16" Midget Wr.
M-106	Extens., Plastic Grip, 6"	1132	1/2 & 1/2" Midget Wr.

**SET No. M-8**  
**Complete in Metal Case**

46 Pieces

20 Sockets, 10 Attachments,  
15 Wrenches and 1 Plier

Total Weight, 4 lbs.

2 Color Steel Case Only

1-3/8 x 5-7/8 x 8"

Weight, 1.6 lbs.

**CONTENTS**

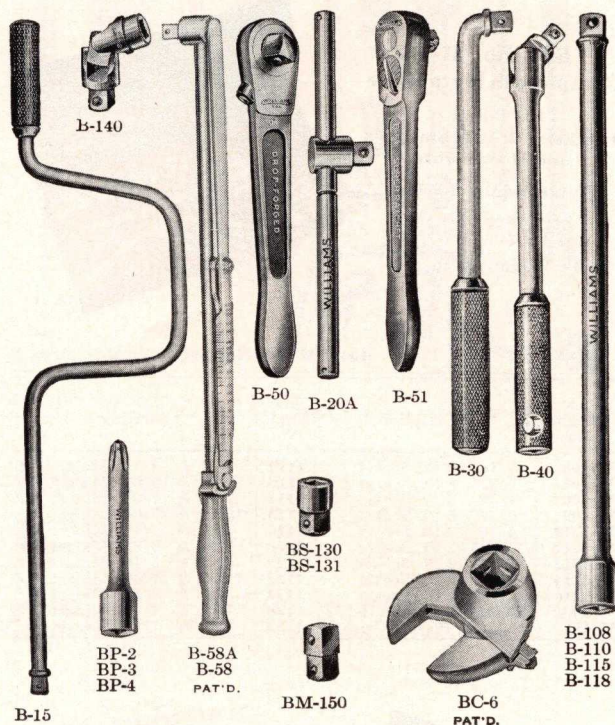
One Ea. No.	Description	One Ea. No.	Description
M-406	3/16" 4 Pt. Socket .....	M-51	Reversible Ratchet, 4-1/2" ..
M-407	7/32" 4 Pt. Socket .....	M-106	Extension, Plastic Grip, 6" ..
M-408	1/4" 4 Pt. Socket .....	M-110	Extension Driver, 5-3/8" .....
M-606	3/16" 6 Pt. Socket .....	M-126	Screw Driver Attachment, 6"
M-607	7/32" 6 Pt. Socket .....	M-140	Universal Joint .....
M-608	1/4" 6 Pt. Socket .....	MP-1	Phillips No. 1 Driver Attach.
M-609	9/32" 6 Pt. Socket .....	MP-2	Phillips No. 2 Driver Attach.
M-810	5/16" 8 Pt. Socket .....	1519	4-1/2" "Superpliers" .....
M-812	3/8" 8 Pt. Socket .....	1112	3/16 & 3/16" Midget Wr.
M-1210	5/16" 12 Pt. Socket .....	1113	13/64 & 13/64" Midget Wr.
M-1211	11/32" 12 Pt. Socket .....	1114	7/32 & 7/32" Midget Wr.
M-1212	3/8" 12 Pt. Socket .....	1115	15/64 & 15/64" Midget Wr.
M-1214	7/16" 12 Pt. Socket .....	1116	1/4 & 1/4" Midget Wr.
M-1216	1/2" 12 Pt. Socket .....	1118	9/32 & 9/32" Midget Wr.
MD-608	1/4" 6 Pt. Deep Socket .....	1120	5/16 & 5/16" Midget Wr.
MD-609	9/32" 6 Pt. Deep Socket .....	1122	11/32 & 11/32" Midget Wr.
MD-1210	5/16" 12 Pt. Deep Socket .....	1124	3/8 & 3/8" Midget Wr.
MD-1211	11/32" 12 Pt. Deep Socket .....	1128	7/16 & 7/16" Midget Wr.
MD-1212	3/8" 12 Pt. Deep Socket .....	1132	1/2 & 1/2" Midget Wr.
MD-1214	7/16" 12 Pt. Deep Socket .....	1150	13/64 & 3/16" Mid. Box Wr.
M-20A	Sliding T Handle, 4-1/2"	1151	15/64 & 7/32" Mid. Box Wr.
M-42	Flex Handle, 5-3/4" .....	1152	9/32 & 1/4" Mid. Box Wr.
M-42B	Sliding Bar for M-42 .....	1153	11/32 & 5/16" Mid. Box Wr.



## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

BANTAM PATTERN—3/8" SQUARE DRIVE HANDLES and PARTS

MILITARY DESCRIPTION: MIL-W-15838A  
GGG-W-641A

No.	PIECE	Wgt. Each
BP-2	Phillips Screw Driver Socket Attachment—No. 2	
	Phillips Drive to fit Screws Nos. 5 to 9 inclusive...	.06
BP-3	Phillips Screw Driver Socket Attachment—No. 3	
	Phillips Drive to fit Screws Nos. 10 to 16 inclusive...	.13
BP-4	Phillips Screw Driver Socket Attachment—No. 4	
	Phillips Drive to fit No. 18 and larger...	.13
BC-6	Adjustable Crowfoot Attachment—Capacity, 3/4"—May be used with any combination of 3/8" square drive Handles or Parts...	.19
B-15	Speeder—16-1/2" long; Knurled revolving grip...	1.1
B-20A	Sliding T Handle—6-1/2" long...	.26
B-30	Offset Handle—7-3/4" long; Knurled grip...	.50
B-40	Flex Handle—8-1/2" long; flexible head. Knurled grip with 3/8" square drive hole in end; 3/8" cross hole for Sliding Bar—may be used as Extension...	.57
B-42B	Sliding Bar, 5/16" rd. x 6", for B-40...	.08
B-50	Drop-Forged Ratchet—6-1/2" long; complete with No. B-150 Plug-Connector...	.43
B-50A	Ratchet—Same as B-50, but with 1/4" sq. drive opening in ratchet wheel and 1/4" sq. hole near end of handle, for Refrigeration Service. Without Plug-Connector...	.43
B-50B	Ratchet—Same as B-50, but with 5/16" square drive opening. No Plug-Connector...	.43
B-51	Reversible Ratchet—6-1/2" long. 24 teeth in ratchet-gear instead of usual 14 or 16. Turning shift-lever reverses action instantly...	.44
B-51A	Reversible Ratchet for Refrigeration Service—same as B-51, but has both 3/8" square male and 1/4" square female ratchet drive. Also has 3/16" and 1/4" square drive holes in handle end...	.44
B-58	Torque "Measurrench"—15-1/2" long. Indicates R.H. and L.H. torque 0 to 600 inch pounds...	1.2
B-58A	Torque "Measurrench"—12-1/4" long. Indicates R.H. and L.H. torque 0 to 150 inch pounds...	.94
B-108	Extension Bar—3" long...	.16
B-110	Extension Bar—5-1/2" long...	.23
B-115	Extension Bar—10-1/2" long...	.44
B-118	Extension Bar—18" long...	.84
BS-130	Adapter—3/8" square female and 1/2" square male...	.13
BS-131	Adapter—3/8" square male and 1/2" square female...	.15
B-140	Universal Joint—Fitted with spring tension to maintain operating angle desired—range approx. 140°...	.13
B-150	Ratchet Plug-Connector for B-50 Ratchet...	.03
BM-150	Adapter—3/8" square male and 1/4" square male...	.03

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

BANTAM PATTERN—3/8" SQUARE DRIVE



Williams "Bantam" Sockets with thin walls get in and service "buried" nuts in close and awkward corners. These "Supersockets" are accurately made from Selected Alloy Steel, heat-treated and chrome-plated.

## MILITARY DESCRIPTION:

MIL-W-15838A, TYPE I, CLASS I, STYLE A (B-608-B-624 &amp; B-1210-B-1228)

MIL-W-15838A, TYPE I, CLASS I, STYLE B (BD-1212-BD-1226)

GGG-W-641A, TABLE 4 (B-608-B-624)

GGG-W-641A, TABLE 4B (BD-1212-BD-1226)

Size Open- ing	6-Point Openings		12-Point Openings				Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std	
	Regular		Regular		‡ Extra Deep					Reglr. Nut	Mach. Screw
	No.	Wt. Ea.	No.	Wt. Ea.	No.	Wt. Ea.					
1/4	B-608	.04									No. 4
5/16	B-610	.04	B-1210	.04			1/8	1/8			5 & 6
11/32	B-611	.05	B-1211	.05							8
3/8	B-612	.05	B-1212	.05	BD-1212	.09		3/16			10
7/16	B-614	.05	B-1214	.05	BD-1214	.10		1/4	1/4	1/4	12-1/4
1/2	B-616	.06	B-1216	.06	BD-1216	.10	1/4	5/16	5/16		
17/32			B-1217	.07							
9/16	B-618	.07	B-1218	.07	BD-1218	.13		3/8	3/8	5/16	5/16
19/32			B-1219	.08			5/16				
5/8	B-620	.09	B-1220	.09	BD-1220	.16		7/16	7/16	3/8	3/8
11/16	B-622	.11	B-1222	.11	BD-1222	.22	3/8				
3/4	B-624	.13	B-1224	.13	BD-1224	.22		1/2	1/2	7/16	
13/16			B-1226	.15	BD-1226	.24		9/16		1/2	
7/8			B-1228	.17			1/2	5/8	9/16	9/16	

† 2 to 2-5/8" long has Cross Hole for 9/32" Bar.



All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired. Crowfoot attachments are designed for use with all Bantam attachments.

## MILITARY DESCRIPTION:

MIL-W-15838A, TYPE I, CLASS I, STYLE C, UNIV. SKTS. (BU-1212-BU-1224)

GGG-W-641A, TABLE 4A (BD-814-BD-820)

Size Opening	12-Point Universal Sockets		Crowfoot Wrench Attachments		4 AND 8-POINT OPENINGS		
	No.	Wgt. Each	No.	Wgt. Each	No.	Wgt. Each	Size Opening
3/8	BU-1212	.09	BC-1700	.08	† B-409	.05	9/32
7/16	BU-1214	.09	BC-1701	.08	*BD-814	.09	7/16
1/2	BU-1216	.09	BC-1001	.11			
9/16	BU-1218	.10	BC-1702	.11	*BD-816	.13	1/2
5/8	BU-1220	.11	BC-1703	.18			
11/16	BU-1222	.11	BC-1003	.18	*BD-818	.14	9/16
3/4	BU-1224	.13			*BD-820	.18	5/8

† 4-Point Socket for use on Torque Converter Drain Plug (Dynaflow).

\* Extra Deep 8-Point Sockets—1-1/2" long.



## SUPERSOCKET® BITS FOR HOLLOW SCREWS

Bit No.	Hex. Plug Size	Square Drive	Weight Each	For Hollow Screws	
				Set Screw	Cap Screw
AB-608	1/4	3/8	.06	1/2 & 9/16	
AB-610	5/16	3/8	.06	5/8	3/8 & 7/16



## WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

BANTAM PATTERN—3/8" Square Drive

No. PAB-51

REPAIR KIT

For B-51 Bantam  
"Superratchet"

In Cardboard Box

Weight, 1 lb.



In addition to a complete assortment of replacement parts, these Kits each contain one special spanner wrench. This wrench fits the retaining ring (gland), the only part requiring a tool for assembly or disassembly, for which printed instructions are included in each kit.

### CONTENTS

2 Retaining Ring (Gland)	2 Shifter Bolt
6 Ratchet Gear and Plug	6 Shifter Bolt Pin
6 Dog (Pawl)	6 Plunger (Ball)
6 Screw	1 Special Spanner for Gland
6 Spring (Plunger Spring)	

Replacement Parts are also sold separately.



SET No. B-1

Complete  
In Metal Case

11 Pieces

10 Sockets and

1 Attachment

Total Weight, 1.8 lbs.

2 Color Steel Case Only

1-3/4 x 2-1/4 x 7-3/4"

Weight, .75 lb.

### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" — 6 Pt. Socket ...	B-1218	9/16" — 12 Pt. Socket ...
B-1210	5/16" — 12 Pt. Socket ...	B-1220	5/8" — 12 Pt. Socket ...
B-1211	11/32" — 12 Pt. Socket ...	B-1222	11/16" — 12 Pt. Socket ...
B-1212	3/8" — 12 Pt. Socket ...	B-1224	3/4" — 12 Pt. Socket ...
B-1214	7/16" — 12 Pt. Socket ...	B-51	Reversible Ratchet, 6-1/2"
B-1216	1/2" — 12 Pt. Socket ...		

SET No. B-2

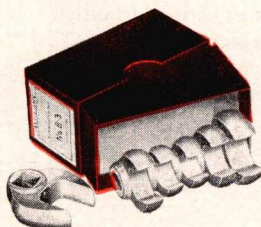
Complete  
In Cardboard Box

7 Pieces

Weight, .75 lb.

### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
BU-1212	3/8" 12 Pt. Univ. Socket	BU-1220	5/8" 12 Pt. Univ. Socket
BU-1214	7/16" 12 Pt. Univ. Socket	BU-1222	11/16" 12 Pt. Univ. Socket
BU-1216	1/2" 12 Pt. Univ. Socket	BU-1224	3/4" 12 Pt. Univ. Socket
BU-1218	9/16" 12 Pt. Univ. Socket		



SET No. B-3

Complete  
In Cardboard Box

6 Pieces

Weight, .50 lb.

### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
BC-1700	3/8" Crowfoot Attach.	BC-1702	9/16" Crowfoot Attach.
BC-1701	7/16" Crowfoot Attach.	BC-1703	5/8" Crowfoot Attach.
BC-1001	1/2" Crowfoot Attach.	BC-1003	11/16" Crowfoot Attach.

## WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

BANTAM PATTERN—3/8" Square Drive

SET No. B-4

Complete  
In Metal Case

18 Pieces

10 Sockets and

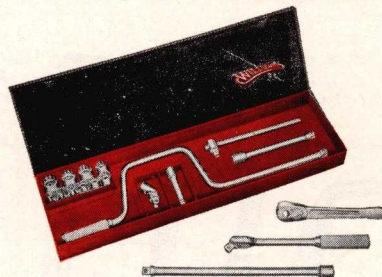
8 Attachments

Total Weight, 6.4 lbs.

2 Color Steel Case Only

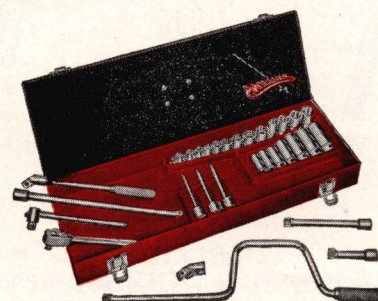
1-1/4 x 5-1/4 x 17-3/4"

Weight, 2.6 lbs.



### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	B-1224	3/4" 12 Pt. Socket ...
B-1210	5/16" 12 Pt. Socket ...	B-15	Speeder, Revol. Grip, 16-1/2"
B-1211	11/32" 12 Pt. Socket ...	B-20A	Sliding T Handle, 6-1/2"
B-1212	3/8" 12 Pt. Socket ...	B-40	Flex Handle, 8-1/2"
B-1214	7/16" 12 Pt. Socket ...	B-51	Reversible Ratchet, 6-1/2"
B-1216	1/2" 12 Pt. Socket ...	B-108	Extension Bar, 3"
B-1218	9/16" 12 Pt. Socket ...	B-110	Extension Bar, 5-1/2"
B-1220	5/8" 12 Pt. Socket ...	B-115	Extension Bar, 10-1/2"
B-1222	11/16" 12 Pt. Socket ...	B-140	Universal Joint ...

SET No. B-5  
Complete in Metal Case

39 Pieces

28 Sockets and 11 Attachments

Total Weight, 11.4 lbs.

2 Color Steel Case—2 x 6-1/2 x 19-1/4"—Weight, 5 lbs.

Universal Sockets BU-1212 thru BU-1224 not included in Set No. B-6

SET No. B-6  
Complete in Metal Case

32 Pieces

21 Sockets and 11 Attachments

Total Weight, 10.5 lbs.

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	BD-1226	13/16" 12 Pt. Deep Socket ...
B-1210	5/16" 12 Pt. Socket ...	BU-1212	3/8" 12 Pt. Univ. Socket ...
B-1211	11/32" 12 Pt. Socket ...	BU-1214	7/16" 12 Pt. Univ. Socket ...
B-1212	3/8" 12 Pt. Socket ...	BU-1216	1/2" 12 Pt. Univ. Socket ...
B-1214	7/16" 12 Pt. Socket ...	BU-1218	9/16" 12 Pt. Univ. Socket ...
B-1216	1/2" 12 Pt. Socket ...	BU-1220	5/8" 12 Pt. Univ. Socket ...
B-1218	9/16" 12 Pt. Socket ...	BU-1222	11/16" 12 Pt. Univ. Socket ...
B-1220	5/8" 12 Pt. Socket ...	BU-1224	3/4" 12 Pt. Univ. Socket ...
B-1222	11/16" 12 Pt. Socket ...	B-15	Speeder, Revol. Grip, 16-1/2"
B-1224	3/4" 12 Pt. Socket ...	B-20A	Sliding T Handle, 6-1/2"
BD-814	7/16" 8 Pt. Deep Skt.	B-40	Flex Handle, 8-1/2"
BD-816	1/2" 8 Pt. Deep Skt.	B-51	Reversible Ratchet, 6-1/2"
BD-818	9/16" 8 Pt. Deep Skt.	B-108	Extension Bar, 3"
BD-820	5/8" 8 Pt. Deep Skt.	B-110	Extension Bar, 5-1/2"
BD-1214	7/16" 12 Pt. Deep Skt.	B-115	Extension Bar, 10-1/2"
BD-1216	1/2" 12 Pt. Deep Skt.	B-140	Universal Joint ...
BD-1218	9/16" 12 Pt. Deep Skt.	BP-2	Phillips No. 2 Driver Attach.
BD-1220	5/8" 12 Pt. Deep Skt.	BP-3	Phillips No. 3 Driver Attach.
BD-1222	11/16" 12 Pt. Deep Skt.	BP-4	Phillips No. 4 Driver Attach.
BD-1224	3/4" 12 Pt. Deep Skt.		

SET No. B-7  
In Cardboard Box

10 Pieces

Weight, .75 lb.

### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	B-616	1/2" 6 Pt. Socket ...
B-610	5/16" 6 Pt. Socket ...	B-618	9/16" 6 Pt. Socket ...
B-611	11/32" 6 Pt. Socket ...	B-620	5/8" 6 Pt. Socket ...
B-612	3/8" 6 Pt. Socket ...	B-622	11/16" 6 Pt. Socket ...
B-614	7/16" 6 Pt. Socket ...	B-624	3/4" 6 Pt. Socket ...

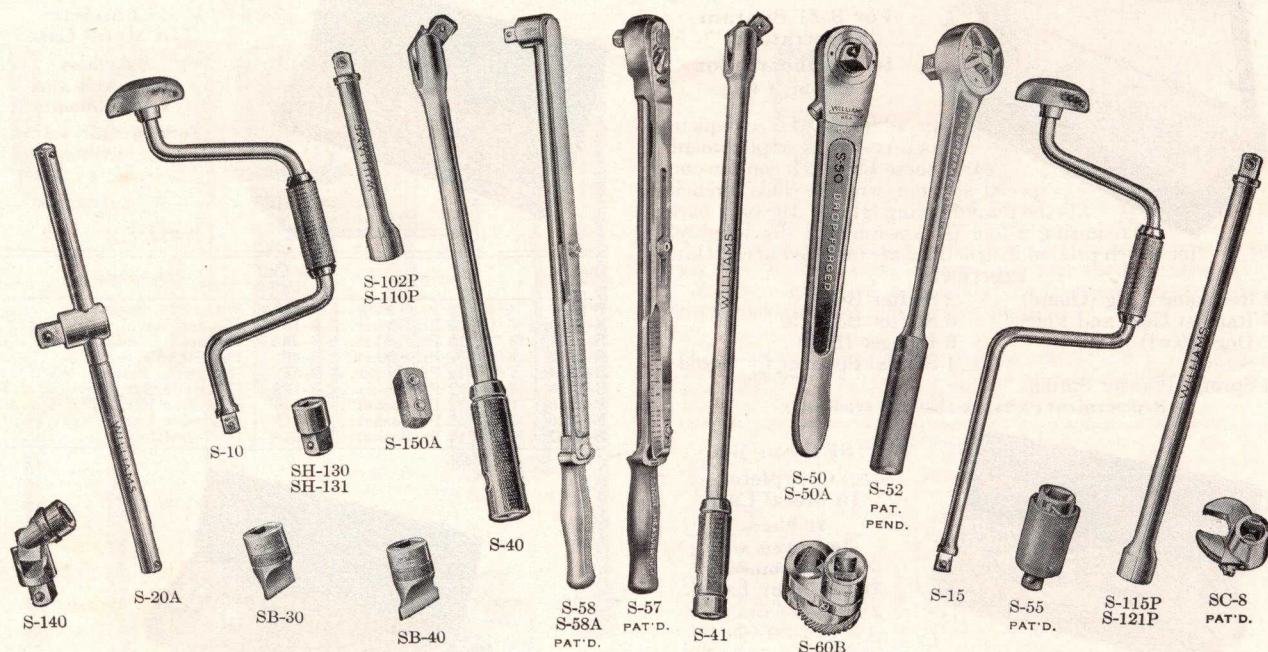




## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

STANDARD PATTERN — 1/2" SQUARE DRIVE — HANDLES AND PARTS

MILITARY DESCRIPTION: MIL-W-15838A  
GGG-W-641A

No.	PIECE	Standard Package
SC-8	Adjustable Crowfoot Attachment—Capacity, 15/16" . . . . .	3
S-10	Speeder—12" long, with knurled revolving grips. . . . .	3
S-15	Speeder—17-1/2" long, with knurled revolving grips. . . . .	3
S-20A	Sliding T Handle—11" long. . . . .	6
SB-30	Screw Driver Socket Attachment—7/64 x 15/16" blade. . . . .	3
SB-40	Screw Driver Socket Attachment—3/32 x 1-1/4" blade. . . . .	3
S-40	Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension; 7/16" round cross hole for Bar. . . . .	6
S-41	Flex Handle—17-1/4" long; flexible head. Knurled grip—1/2" square drive hole in end for use as Extension; 7/16" round cross hole for Bar. . . . .	6
S-42B	Sliding Bar, 7/16" x 9", for Flexible Handle, S-40 and S-41. . . . .	6
S-50	Ratchet—10" long, with Locked-in Plug Connector. . . . .	6
S-50A	Ratchet—10" long, without Plug Connector. . . . .	6
S-52	Reversible Ratchet—11-1/4" long. Concentric type mechanism of 82 tooth action permits rotation of nuts in close quarters. Shifter reverses action instantly. . . . .	6
S-55	Reversible Ratchet Adapter—2-9/16" long; outside diameter 1-1/4". Shift-lever reverses action instantly. . . . .	3
S-57	Torque "Measurrench"—19-1/2" long; indicates R. H. Torque. Has Torque-indicating signal. See page 44. . . . .	1
S-58	Torque "Measurrench"—19-7/8" long. Indicates R.H. and L.H. torque 0 to 200 foot pounds. See page 44. . . . .	1
S-58A	Torque "Measurrench"—18" long. Indicates R.H. and L.H. torque 0 to 100 foot pounds. See page 44. . . . .	1
S-60B	Stud Remover—1/2" square drive. Stud capacity 1/4" to 3/4". . . . .	3
S-102P	Extension Bar—2-1/2" long. . . . .	6
S-110P	Extension Bar—5-1/2" long. . . . .	6
S-115P	Extension Bar—10-1/2" long. . . . .	6
S-121P	Extension Bar—20" long. . . . .	6
SH-130	Adapter—1/2" square female and 3/4" square male. . . . .	3
SH-131	Adapter—1/2" square male and 3/4" square female. . . . .	3
S-140	Universal Joint—Spring tension maintains angle desired. . . . .	6
S-150A	Ratchet Plug-Connector for S-50 Ratchet. . . . .	6



## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

### STANDARD PATTERN — 1/2" SQUARE DRIVE — REGULAR SOCKETS

Regular  
6-PointRegular  
12-PointUniversal  
12-PointRegular  
8-Point

Williams Standard Sockets, with 6-point, 12-point and 8-point openings as listed below, have thin walls for work in close places.

All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired. Accurately made from Selected Alloy Steel, heat-treated and chrome-plated.

Whitworth Standard and Metric sizes available; see Catalog A-535.

MILITARY DESCRIPTION: MIL-W-15838A, TYPE I, CLASS I, STYLE A (ST-612-ST-632, ST-1212-ST-1240, ST-810-ST-832)  
MIL-W-15838A, TYPE I, CLASS I, STYLE C (SU-1216-SU-1224)  
GGG-W-641A, TABLE 5 (ST-612-ST-632, ST-1212-ST-1240)  
GGG-W-641A, TABLE 7 (ST-810-ST-832)

Nominal Opening	Straight Wall 6-Point Sockets		Straight Wall 12-Point Sockets		Universal 12-Point Sockets		For Amer. Std. Heavy Nut (U.S.S.); Size Bolt	For Amer. Std. Hex Head Cap Screw Diam. Screw	For Amer. Std. Light Nut (S.A.E.); Size Bolt	For Amer. Std. Regular Nut; Size Bolt	8-POINT OPENINGS		
	No.	Std. Pkg.	No.	Std. Pkg.	No.	Std. Pkg.					No.	Std. Pkg.	Nom. Opng.
3/8	ST-612	6	ST-1212	6				3/16			ST-810	6	5/16
7/16	ST-614	6	ST-1214	6				1/4		1/4	ST-812	6	3/8
1/2	ST-616	6	ST-1216	6	SU-1216	6	1/4	5/16	5/16				
9/16	ST-618	6	ST-1218	6	SU-1218	6		3/8	3/8	5/16	ST-814	6	7/16
* 9/16	SF-618	6											
19/32	ST-619	6	ST-1219	6			5/16				ST-816	6	1/2
5/8	ST-620	6	ST-1220	6	SU-1220	6		7/16	7/16	3/8			
21/32	ST-621	6	ST-1221	6							ST-818	6	9/16
11/16	ST-622	6	ST-1222	6	SU-1222	6	3/8						
3/4	ST-624	6	ST-1224	6	SU-1224	6		1/2	1/2	7/16	ST-820	6	5/8
25/32	ST-625	6	ST-1225	6			7/16						
13/16	ST-626	6	ST-1226	6				9/16	9/16	1/2	ST-822	6	11/16
7/8	ST-628	6	ST-1228	6			1/2	5/8	9/16	9/16	ST-824	6	3/4
15/16	ST-630	6	ST-1230	6			9/16		5/8		ST-828	6	7/8
31/32			ST-1231	6									
1	ST-632	6	ST-1232	6				3/4		5/8	ST-832	6	1
1 1/16			ST-1234	6			5/8		3/4				
1 1/8			ST-1236	6				7/8		3/4			
1 3/16			ST-1238	6									
1 1/4			ST-1240	6			3/4		7/8				

\* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts.

## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

### STANDARD PATTERN—1/2" SQUARE DRIVE

#### EXTRA DEEP 12-POINT SOCKETS



Especially designed for Spark Plug and other service, such as U Bolts and Brake-Rod-Ends, where the nuts lie some distance from the outer end of the threaded stem. Their 12-point openings permit operation in close quarters where the handle can be swung only 30°.

Carefully made from Selected Alloy Steel, heat-treated and chrome-plated.

MILITARY DESCRIPTION: MIL-W-15838A, TYPE I, CLASS I, STYLE B. (SD-1216-SD-1236)  
GGG-W-641A, TABLE 6 (SD-1216-SD-1236)

12-Point Opening	EXTRA DEEP Sockets			Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regr. Nut; Size Bolt
	No.	Length	Std. Pkg.				
1/2	SD-1216	3-1/4	4	1/4	5/16	5/16	
* 9/16	SD-1218	3-1/4	4		3/8	3/8	5/16
* 5/8	SD-1220	3-1/4	4		7/16	7/16	3/8
* 11/16	SD-1222	3-1/4	4	3/8		1/2	7/16
3/4	SD-1224	3-1/4	4		1/2	1/2	7/16
25/32	SD-1225	3-1/4	4	7/16			
* 13/16	SD-1226	3-1/4	4		9/16		1/2
7/8	SD-1228	3-1/4	4	1/2	5/8	9/16	9/16
† 7/8	SD-1228T	3-1/4	4				
* 15/16	SD-1230	3-1/4	4	9/16		5/8	
* 1	SD-1232	3-1/4	4		3/4		5/8
1-1/16	SD-1234	3-1/4	4	5/8		3/4	
* 1-1/8	SD-1236	3-1/4	4		7/8		3/4

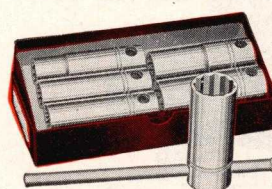
\* Popular Spark Plug Sizes

† Not guaranteed because of extra thin walls.

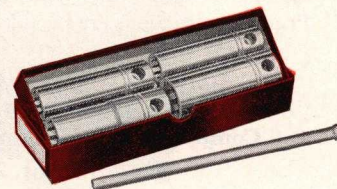
SD-1220 services AC No. 104, Champion Nos. Y-4A and Y-5, 10mm. Plugs.

SD-1222 services AC No. 103-S, AC No. M-8, Champion No. Y-4 and Auto-Lite No. P-4, 10mm. Spark Plugs.

SD-1226 services 14mm. Spark Plugs.



SET No. S-8  
With  
7" Sliding Bar  
In  
Cardboard Box



SET No. S-9  
With  
7" Sliding Bar  
In  
Cardboard Box

#### CONTENTS

One Ea. No.	Description
SD-1218	9/16" 12 Pt. Deep Skt.
SD-1220	5/8" 12 Pt. Deep Skt.
SD-1222	11/16" 12 Pt. Deep Skt.
SD-1226	13/16" 12 Pt. Deep Skt.
SD-1228	7/8" 12 Pt. Deep Skt.
SD-1232	1" 12 Pt. Deep Skt.

#### CONTENTS

One Ea. No.	Description
SD-1220	5/8" 12 Pt. Deep Skt.
SD-1222	11/16" 12 Pt. Deep Skt.
SD-1226	13/16" 12 Pt. Deep Skt.
SD-1232	1" 12 Pt. Deep Skt.

SD-1228T services 18mm. Spark Plugs.

SD-1230 services many buses and trucks.

SD-1232 services 18mm. Spark Plugs on cars; also many buses and trucks.

SD-1236 services many buses and trucks.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



# WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN—1/2" SQUARE DRIVE

SET No. S-11  
Complete  
In Cardboard Box  
5 Pieces  
Weight, 1.3 lbs.



## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
SU-1216	1/2" 12 Pt. Univ. Skt.	SU-1222	11/16" 12 Pt. Univ. Skt.
SU-1218	9/16" 12 Pt. Univ. Skt.	SU-1224	3/4" 12 Pt. Univ. Skt.
SU-1220	5/8" 12 Pt. Univ. Skt.		

# WILLIAMS' RATCHET REPAIR KITS



In addition to a complete assortment of replacement parts, Williams Ratchet Repair Kits each contain one special spanner wrench. This wrench fits the retaining ring (gland). Printed instructions are included in each kit.

## No. PAS-51

For S-51 Standard "Superratchet"  
Complete in Compartmented Cardboard Box

Weight, 2.3 lbs.

## CONTENTS

2 Retaining Ring (Gland)	2 Shifter Bolt
6 Ratchet Gear and Plug	6 Shifter Bolt Pin
6 Dog (Pawl)	6 Plunger (Ball)
6 Bearing Pin	1 Special Spanner for Gland
6 Spring (Plunger Spring)	

## No. PAS-52

For S-52 Standard "Superratchet"  
Complete in Compartmented Cardboard Box

Weight, 1.5 lbs.

## CONTENTS

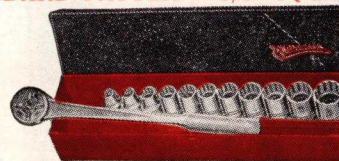
2 Shifter Grip	2 Shifter Bolt
12 Pawl Shaft	12 Pawl Ball
12 Pawl	6 Pawl Spring
3 Runner	6 Shifter Screw
2 Gland	1 Special Spanner for Gland

Replacement Parts are also sold separately

# WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN—1/2" SQUARE DRIVE



SET No. S-1  
In Metal Case  
12 Pieces  
Weight, 4.8 lbs.

SET No. S-2  
In Metal Case  
9 Pieces  
Weight, 5.1 lbs.

SET No. S-3  
In Metal Case  
10 Pieces  
Weight, 5.1 lbs.

2 Color Steel Case Only—2-1/8 x 3 x 12-1/2"  
Weight, 1.6 lbs.

One Ea. No.	Description	One Ea. No.	Description
CONTENTS—SET No. S-1			
ST-1212	3/8" 12 Pt. Socket ...	ST-1222	11/16" 12 Pt. Socket ...
ST-1214	7/16" 12 Pt. Socket ...	ST-1224	3/4" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1225	25/32" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1232	1" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	S-52	Revers. Ratchet, 11-1/4"

One Ea. No.	Description	One Ea. No.	Description
CONTENTS—SET No. S-2			
ST-1216	1/2" 12 Pt. Socket ...	ST-1231	31/32" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1234	1- 1/16" 12 Pt. Socket ...
ST-1222	11/16" 12 Pt. Socket ...	ST-1240	1- 1/4" 12 Pt. Socket ...
ST-1225	25/32" 12 Pt. Socket ...	S-52	Revers. Ratchet, 11-1/4"
ST-1228	7/8" 12 Pt. Socket ...		

One Ea. No.	Description	One Ea. No.	Description
CONTENTS—SET No. S-3			
ST-1214	7/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1230	15/16" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1234	1-1/16" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	ST-1240	1-1/4" 12 Pt. Socket ...
ST-1224	3/4" 12 Pt. Socket ...	S-52	Revers. Ratchet, 11-1/4"

SET No. S-4  
Complete  
In Metal Case  
20 Pieces  
19 Sockets and  
1 Attachment

Total Weight,  
8.1 lbs.  
2 Color Steel Case Only  
2-1/8 x 3-3/4 x 12"  
Weight, 1.9 lbs.



## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket ...	ST-1226	13/16" 12 Pt. Socket ...
ST-1214	7/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1230	15/16" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1231	31/32" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1232	1" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	ST-1234	1-1/16" 12 Pt. Socket ...
ST-1221	21/32" 12 Pt. Socket ...	ST-1236	1-1/8" 12 Pt. Socket ...
ST-1222	11/16" 12 Pt. Socket ...	ST-1238	1-3/16" 12 Pt. Socket ...
ST-1224	3/4" 12 Pt. Socket ...	ST-1240	1-1/4" 12 Pt. Socket ...
ST-1225	25/32" 12 Pt. Socket ...	S-52	Revers. Ratchet, 11-1/4"

## SET No. S-12

Complete in Cardboard Box

15 Pieces

Weight, 2.8 lbs.

## CONTENTS

One Ea. No.	Description
ST-612	3/8" 6 Pt. Socket ...
ST-614	7/16" 6 Pt. Socket ...
ST-616	1/2" 6 Pt. Socket ...
ST-618	9/16" 6 Pt. Socket ...
*SF-618	9/16" 6 Pt. Socket ...
ST-619	19/32" 6 Pt. Socket ...
ST-620	5/8" 6 Pt. Socket ...
ST-621	21/32" 6 Pt. Socket ...
ST-622	11/16" 6 Pt. Socket ...
ST-624	3/4" 6 Pt. Socket ...
ST-625	25/32" 6 Pt. Socket ...
ST-626	13/16" 6 Pt. Socket ...
ST-628	7/8" 6 Pt. Socket ...
ST-630	15/16" 6 Pt. Socket ...
ST-632	1" 6 Pt. Socket ...

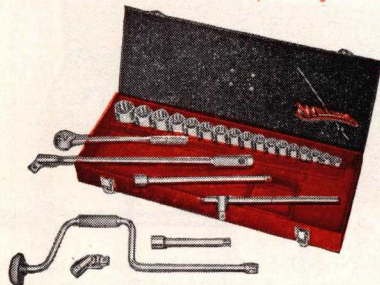
\* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts.



# WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN — 1/2" Square Drive



SET No. S-5

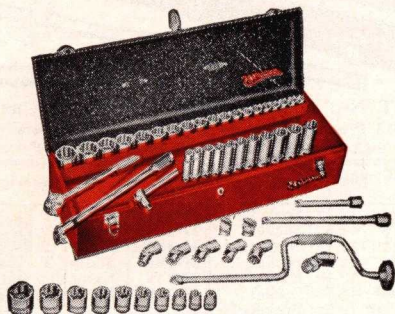
Complete in Metal Case

24 Pieces — 17 Sockets and 7 Attachments

Total Weight, 18 lbs.

2 Color Steel Case Only—2-1/4 x 7-1/2 x 20-3/4"—Weight, 6 lbs.

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	ST-1231	31/32" 12 Pt. Socket.....
ST-1214	7/16" 12 Pt. Socket	ST-1232	1" 12 Pt. Socket.....
ST-1216	1/2" 12 Pt. Socket	ST-1234	1-1/16" 12 Pt. Socket.....
ST-1218	9/16" 12 Pt. Socket	ST-1236	1-1/8" 12 Pt. Socket.....
ST-1219	19/32" 12 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket.....
ST-1220	5/8" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1222	11/16" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1224	3/4" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1225	25/32" 12 Pt. Socket	S-52	Reversible Ratchet, 11-1/4"
ST-1226	13/16" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1228	7/8" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1230	15/16" 12 Pt. Socket	S-140	Universal Joint.....



SET No. S-7

Complete in Metal Case

44 Pieces

35 Sockets and 9 Attachments

Total Weight, 27 lbs.

2 Color Steel Case Only—5-3/8 x 7-1/2 x 23-1/4"—Weight, 8.6 lbs.

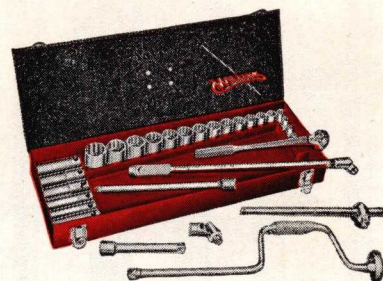
One Ea. No.	Description	One Ea. No.	Description
*ST-810	5/16" 8 Pt. Socket	ST-1238	1-3/16" 12 Pt. Socket.....
*ST-812	3/8" 8 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket.....
*ST-814	7/16" 8 Pt. Socket	SD-1216	1/2" 12 Pt. Deep Socket.....
*ST-816	1/2" 8 Pt. Socket	SD-1218	9/16" 12 Pt. Deep Socket.....
*ST-818	9/16" 8 Pt. Socket	SD-1220	5/8" 12 Pt. Deep Socket.....
*ST-820	5/8" 8 Pt. Socket	SD-1222	11/16" 12 Pt. Deep Socket.....
*ST-822	11/16" 8 Pt. Socket	SD-1224	3/4" 12 Pt. Deep Socket.....
*ST-824	3/4" 8 Pt. Socket	SD-1226	13/16" 12 Pt. Deep Socket.....
*ST-828	7/8" 8 Pt. Socket	SD-1228	7/8" 12 Pt. Deep Socket.....
*ST-832	1" 8 Pt. Socket	SD-1230	15/16" 12 Pt. Deep Socket.....
ST-1212	3/8" 12 Pt. Socket	SD-1232	1" 12 Pt. Deep Socket.....
ST-1214	7/16" 12 Pt. Socket	SD-1234	1-1/16" 12 Pt. Deep Socket.....
ST-1216	1/2" 12 Pt. Socket	SD-1236	1-1/8" 12 Pt. Deep Socket.....
ST-1218	9/16" 12 Pt. Socket	SU-1216	1/2" 12 Pt. Univ. Socket.....
ST-1219	19/32" 12 Pt. Socket	SU-1218	9/16" 12 Pt. Univ. Socket.....
ST-1220	5/8" 12 Pt. Socket	SU-1220	5/8" 12 Pt. Univ. Socket.....
ST-1221	21/32" 12 Pt. Socket	SU-1222	11/16" 12 Pt. Univ. Socket.....
ST-1222	11/16" 12 Pt. Socket	SU-1224	3/4" 12 Pt. Univ. Socket.....
ST-1224	3/4" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1225	25/32" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1226	13/16" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1228	7/8" 12 Pt. Socket	S-52	Reversible Ratchet, 11-1/4"
ST-1230	15/16" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1231	31/32" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1232	1" 12 Pt. Socket	S-140	Universal Joint.....
ST-1234	1-1/16" 12 Pt. Socket	SB-30	Drag Link Socket Bit.....
ST-1236	1-1/8" 12 Pt. Socket	SB-40	Drag Link Socket Bit.....

\* Not included in Set No. S-7.

# WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN—1/2" Square Drive



SET No. S-6

Complete in Metal Case

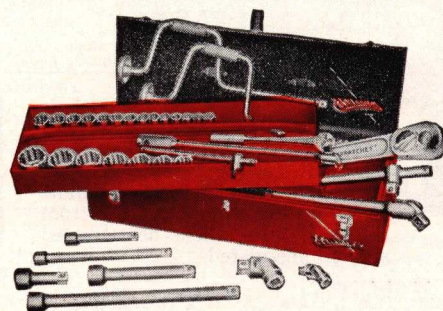
30 Pieces — 23 Sockets and 7 Attachments

Total Weight, 20.3 lbs.

2 Color Steel Case Only—2-1/4 x 7-1/2 x 20-3/4"—Weight, 6 lbs.

## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	ST-1236	1-1/8" 12 Pt. Socket.....
ST-1214	7/16" 12 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket.....
ST-1216	1/2" 12 Pt. Socket	SD-1218	9/16" 12 Pt. Deep Socket.....
ST-1218	9/16" 12 Pt. Socket	SD-1220	5/8" 12 Pt. Deep Socket.....
ST-1219	19/32" 12 Pt. Socket	SD-1222	11/16" 12 Pt. Deep Socket.....
ST-1220	5/8" 12 Pt. Socket	SD-1226	13/16" 12 Pt. Deep Socket.....
ST-1222	11/16" 12 Pt. Socket	SD-1228	7/8" 12 Pt. Deep Socket.....
ST-1224	3/4" 12 Pt. Socket	SD-1232	1" 12 Pt. Deep Socket.....
ST-1225	25/32" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1226	13/16" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1228	7/8" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1230	15/16" 12 Pt. Socket	S-52	Reversible Ratchet, 11-1/4"
ST-1231	31/32" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1232	1" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1234	1-1/16" 12 Pt. Socket	S-140	Universal Joint.....



SET No. S-10

Complete in Metal Case

36 Pieces — 21 Sockets and 15 Attachments

Total Weight, 50 lbs.

2 Color Steel Case Only—6-3/4 x 7-1/2 x 23-1/4"—Weight, 12.4 lbs.

## CONTENTS

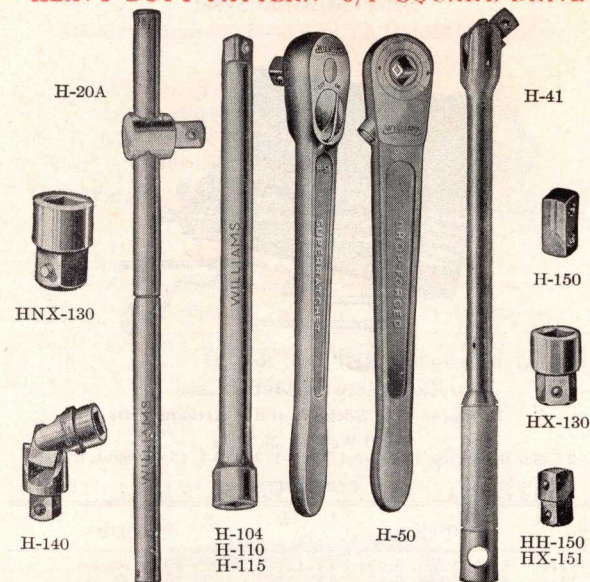
One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	H-1246	1-7/16" 12 Pt. Socket.....
ST-1214	7/16" 12 Pt. Socket	H-1248	1-1/2" 12 Pt. Socket.....
ST-1216	1/2" 12 Pt. Socket	H-1252	1-5/8" 12 Pt. Socket.....
ST-1218	9/16" 12 Pt. Socket	S-10	Speeder, Revol. Grips, 12"
ST-1219	19/32" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1220	5/8" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1222	11/16" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1224	3/4" 12 Pt. Socket	S-52	Reversible Ratchet, 11-1/4"
ST-1225	25/32" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1226	13/16" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1228	7/8" 12 Pt. Socket	S-140	Universal Joint.....
ST-1230	15/16" 12 Pt. Socket	H-20A	Sliding T Handle, 17-1/2"
ST-1231	31/32" 12 Pt. Socket	H-41	Flex Handle, 20"
ST-1232	1" 12 Pt. Socket	H-51	Reversible Ratchet, 19"
H-1234	1-1/16" 12 Pt. Socket	H-104	Extension Bar, 4"
H-1236	1-1/8" 12 Pt. Socket	H-110	Extension Bar, 8"
H-1240	1-1/4" 12 Pt. Socket	H-115	Extension Bar, 15-1/2"
H-1242	1-5/16" 12 Pt. Socket	H-140	Universal Joint.....



## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

HEAVY DUTY PATTERN—3/4" SQUARE DRIVE



MILITARY DESCRIPTION: MIL-W-15838A, GGG-W-641A

No.	PIECE	Std. Pkg.
H-20A	Sliding T Handle—17-1/2" long.	3
H-41	Flex Handle—20" long; flexible head, knurled grip and cross hole for Sliding Bar.	3
H-41B	Sliding Bar, 3/4" x 16" for H-41 and X-41	3
H-50	Ratchet—18-1/2" long; with Connector for H-150	3
H-51	Reversible Ratchet—19" lg, 24 gear teeth instead of usual 16. Shifter reverses action instantly.	3
H-104	Extension Bar—4" long.	3
H-110	Extension Bar—8" long.	3
H-115	Extension Bar—15-1/2" long.	3
H-130	Adapter, 3/4" square female and 1" square male.	3
HX-130	Adapter, 3/4" square female and 1" hex male.	3
H-140	Universal Joint—range approx. 140°.	3
H-150	Ratchet Plug-Connector.	3
HH-150	Plug-Adapter, 5/8" and 3/4" square male.	3
HX-151	Adapter, 3/4" square male and 1" square male.	3

Regular  
12-Pt.

Williams Heavy Duty Sockets are designed for harder service where more strength is required than on the every-day job. Will rotate nuts completely where handle can be swung only 30°. Made from Selected Alloy Steel heat-treated and chrome-plated.

Extra Deep  
12-Pt.

MILITARY DESCRIPTION:  
MIL-W-15838A, TYPE I, CLASS I, STYLE A (H-1228-H-1272)  
MIL-W-15838A, TYPE I, CLASS I, STYLE B (HD-1230-HD-1246)  
GGG-W-641A, TABLE 8 (H-1228-H-1272)

Size Opening	Regular		*Extra Deep		Am Std. Heavy Nut (USS)	Am Std. Hx. Hd. Cap Screw	Am Std. Light Nut (SAE)	Amer. Std. Regl. Nut
	No.	Std. Pkg.	No.	Std. Pkg.				
7/8	H-1228	4			1/2	5/8	9/16	9/16
15/16	H-1230	4	HD-1230	4	9/16			
31/32	H-1231	4						
1	H-1232	4				3/4		5/8
1 1/16	H-1234	4	HD-1234	4	5/8		3/4	3/4
1 1/8	H-1236	4				7/8		
1 3/16	H-1238	4						
1 1/4	H-1240	4	HD-1240	4	3/4		7/8	
1 5/16	H-1242	4				1		7/8
1 3/8	H-1244	4						
1 7/16	H-1246	4	HD-1246	4	7/8		1	
1 1/2	H-1248	4				1-1/8		1
1 5/8	H-1252	4			1		1-1/8	
1 11/16	H-1254	4				1-1/4		1-1/8
1 3/4	H-1256	4						
1 13/16	H-1258	4			1-1/8		1-1/4	
1 7/8	H-1260	4				1-1/4		1-1/4
2	H-1264	4			1-1/4		1-3/8	
2 1/16	H-1266	2						1-3/8
2 1/8	H-1268	2						
2 3/16	H-1270	2			1-3/8		1-1/2	
2 1/4	H-1272	2						1-1/2

\* 3-1/4" to 3-1/2" long.

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

## SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

HEAVY DUTY PATTERN—3/4" SQUARE DRIVE

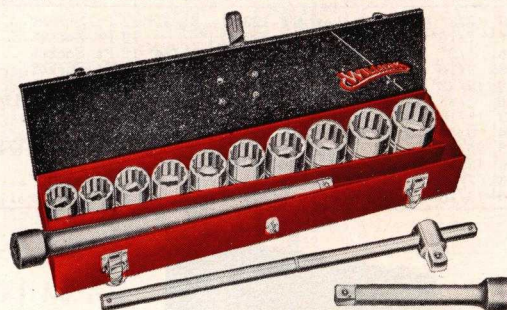


SET No. H-1—Complete in Metal Case

9 Pieces—8 Sockets and 1 Attachment

2 Color Steel Case—5-3/8 x 4 x 18"

One Ea. No.	Description	One Ea. No.	Description
H-1228	7/8" 12 Pt. Socket...	H-1252	1- 5/8" 12 Pt. Socket...
H-1231	31/32" 12 Pt. Socket...	H-1258	1-13/16" 12 Pt. Socket...
H-1234	1-1/16" 12 Pt. Socket...	H-1264	2" 12 Pt. Socket...
H-1240	1-1/4" 12 Pt. Socket...	H-20A	Sliding T Handle, 17-1/2"
H-1246	1-7/16" 12 Pt. Socket...		

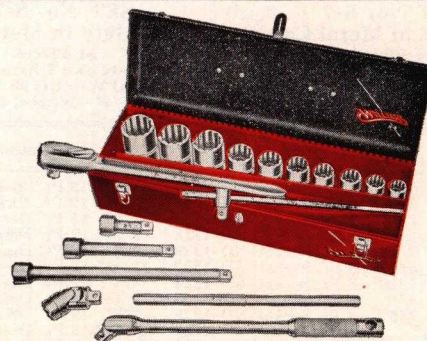


SET No. H-2—Complete in Metal Case

13 Pieces—10 Sockets and 3 Attachments

2 Color Steel Case—2-3/4 x 4-1/2 x 19-3/4"

One Ea. No.	Description	One Ea. No.	Description
H-1234	1-1/16" 12 Pt. Socket...	H-1248	1-1/2" 12 Pt. Socket....
H-1236	1-1/8" 12 Pt. Socket...	H-1252	1-5/8" 12 Pt. Socket....
H-1238	1-3/16" 12 Pt. Socket...	H-1256	1-3/4" 12 Pt. Socket....
H-1240	1-1/4" 12 Pt. Socket...	H-20A	Sliding T Handle, 17-1/2"
H-1242	1-5/16" 12 Pt. Socket...	H-110	Extension Bar, 8"
H-1244	1-3/8" 12 Pt. Socket...	H-115	Extension Bar, 15-1/2"
H-1246	1-7/16" 12 Pt. Socket...		



SET No. H-3—Complete in Metal Case

18 Pieces—10 Sockets and 8 Attachments

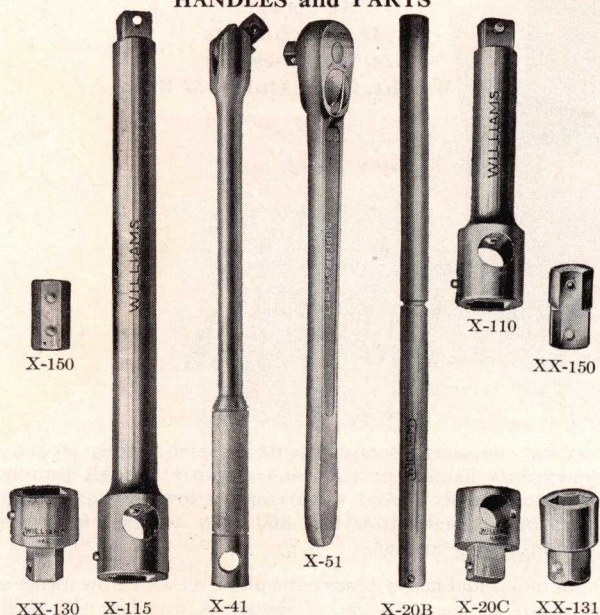
2 Color Steel Case—5-3/8 x 7-1/2 x 23-1/4"

One Ea. No.	Description	One Ea. No.	Description
H-1234	1- 1/16" 12 Pt. Socket...	H-1264	2" 12 Pt. Socket.....
H-1236	1- 1/8" 12 Pt. Socket...	H-20A	Sliding T Handle, 17-1/2"
H-1240	1- 1/4" 12 Pt. Socket...	H-41	Flex Handle, 20".....
H-1242	1- 5/16" 12 Pt. Socket...	H-41B	Sliding Bar for H-41.....
H-1246	1- 7/16" 12 Pt. Socket...	H-51	Reversible Ratchet, 19"...
H-1248	1- 1/2" 12 Pt. Socket...	H-104	Extension Bar, 4".....
H-1252	1- 5/8" 12 Pt. Socket...	H-110	Extension Bar, 8".....
H-1258	1-13/16" 12 Pt. Socket...	H-115	Extension Bar, 15-1/2"...
H-1260	1- 7/8" 12 Pt. Socket...	H-140	Universal Joint.....

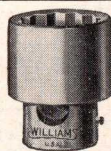


## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN—1" SQUARE DRIVE  
HANDLES and PARTSMILITARY DESCRIPTION: MIL-W-15838A  
GGG-W-641A

No.	PIECE	Std. Pkg.
X-20B	Sliding Handle—1" diam., 20" long.	2
X-20C	Adapter—for Sliding Handle X-20B	2
X-41	Flex Handle 27" long; flexible head, knurled grip and cross-hole for Sliding Bar H-41B, Page 36.	2
X-51	Reversible Ratchet—25" long, 24 teeth in Ratchet gear instead of usual 16. Shift lever reverses action instantly.	2
X-110	Extension Bar—9" long.	2
X-115	Extension Bar—18" long.	2
X-150	Ratchet Plug-Connector—1" hex.	3
XX-130	Adapter—1" square Female and 1" hex Male.	3
XX-131	Adapter—1" hex Female and 1" square Male.	3
XX-150	Adapter—1" square Male and 1" hex Male.	3



12-Pt.

In addition to the 1" square drive opening in their base, these sockets are cross-drilled to receive the Sliding Handle. Will rotate nuts completely where the handle can be swung only 30°. Another feature is the "Lock-Socket" device which provides a positive lock between the sockets and attachments. To release the "Lock-Socket" simply press the button on the socket and pull. Made from Selected Alloy Steel, heat-treated, chrome-plated.

MILITARY DESCRIPTION:  
MIL-W-15838A, TYPE I, CLASS I, STYLE A  
GGG-W-641A, TABLE 9

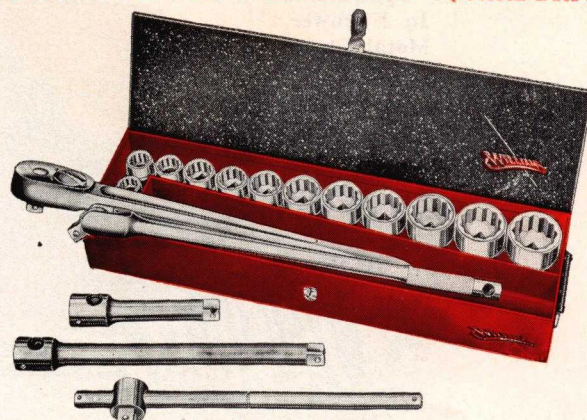
Nominal Opening	No.	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Nut; Size Bolt	Std. Pkg.
1 1/16	X-1234	5/8	7/8	3/4	3/4	2
1 1/8	X-1236					2
1 1/4	X-1240	3/4		7/8		2
1 3/8	X-1244					2
1 7/16	X-1246	7/8		1		2
1 1/2	X-1248		1-1/8		1	2
1 5/8	X-1252	1		1-1/8		1
1 3/16	X-1258	1-1/8		1-1/4		1
1 7/8	X-1260				1-1/4	1
2	X-1264	1-1/4		1-3/8		1
2 1/8	X-1268					1
2 3/16	X-1270	1-3/8		1-1/2		1
2 1/4	X-1272				1-1/2	1
2 3/8	X-1276	1-1/2				1
2 1/2	X-1280					1
2 9/16	X-1282	1-5/8				1
2 5/8	X-1284				1-3/4	1
2 3/4	X-1288	1-3/4				1
2 15/16	X-1294	1-7/8				1
3 1/8	X-12100	2				1

† These Sockets have short neck, no cross-hole.

## SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN—1" SQUARE DRIVE



## SET No. X-1—Complete in Metal Case

18 Pieces—12 Sockets and 6 Attachments

2 Color Steel Case—4-1/4 x 8 x 29-1/4"

## CONTENTS

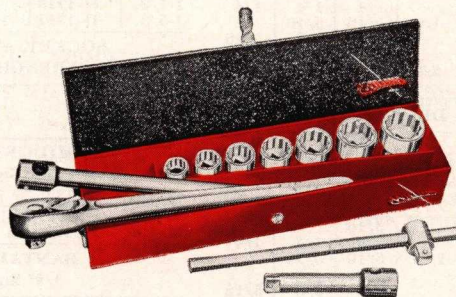
One Ea. No.	Description	One Ea. No.	Description
X-1234	1- 1/16" 12 Pt. Socket	X-1270	2-3/16" 12 Pt. Socket....
X-1236	1- 1/8" 12 Pt. Socket	X-1272	2-1/4" 12 Pt. Socket....
X-1240	1- 1/4" 12 Pt. Socket	X-1276	2-3/8" 12 Pt. Socket....
X-1246	1- 7/16" 12 Pt. Socket	X-20B	Sliding Handle, 1" x 20"
X-1248	1- 1/2" 12 Pt. Socket	X-20C	Adapter for X-20B
X-1252	1- 5/8" 12 Pt. Socket	X-41	Flex Handle, 27"
X-1258	1-13/16" 12 Pt. Socket	X-51	Reversible Ratchet, 25"
X-1260	1- 7/8" 12 Pt. Socket	X-110	Extension Bar, 9"
X-1264	2" 12 Pt. Socket	X-115	Extension Bar, 18"

## SET No. X-2

Complete  
In Metal Case10 Pieces  
7 Sockets and  
3 Attachments2 Color Steel Case  
4-1/4x5-1/4x20-3/4"

## CONTENTS

One Ea. No.	Description	One Ea. No.	Description
X-1240	1- 1/4" 12 Pt. Socket	X-1270	2-3/16" 12 Pt. Socket....
X-1246	1- 7/16" 12 Pt. Socket	X-1276	2-3/8" 12 Pt. Socket....
X-1252	1- 5/8" 12 Pt. Socket	X-20B	Sliding Handle, 1" x 20"
X-1258	1-13/16" 12 Pt. Socket	X-20C	Adapter for X-20B
X-1264	2" 12 Pt. Socket	X-110	Extension Bar, 9"



## SET No. X-3

Complete  
In Metal Case12 Pieces  
7 Sockets and  
5 Attachments2 Color  
Steel Case  
4-1/4x6-1/2x26"

## CONTENTS

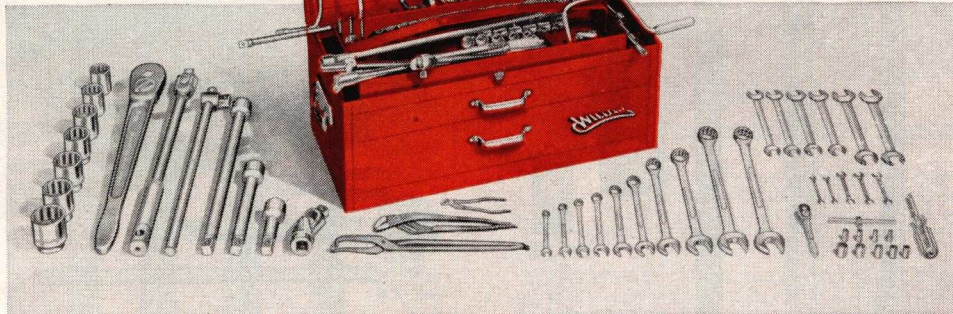
One Ea. No.	Description	One Ea. No.	Description
X-1240	1- 1/4" 12 Pt. Socket	X-1276	2-3/8" 12 Pt. Socket....
X-1246	1- 7/16" 12 Pt. Socket	X-20B	Sliding Handle, 1" x 20"
X-1252	1- 5/8" 12 Pt. Socket	X-20C	Adapter for X-20B
X-1258	1-13/16" 12 Pt. Socket	X-51	Reversible Ratchet, 25"
X-1264	2" 12 Pt. Socket	X-110	Extension Bar, 9"
X-1270	2- 3/16" 12 Pt. Socket	X-115	Extension Bar, 18"

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



## WILLIAMS' "SUPERCHEST" No. 1001

Complete  
In 2 Drawer  
Metal Chest  
11 x 10 x 25"  
Total Weight, 86.5 lbs.



100 Pieces  
44 Sockets  
32 Attachments  
24 Wrenches, Etc.  
Weight, Chest Only—32 lbs.

The Williams 1001 "Superchest" provides a scientifically matched assortment of wrenches in numerous patterns and detachable sockets with accessories in 1/4, 3/8, 1/2 and 3/4" drives that will meet every conceivable nut turning problem of the Machinist or Master Mechanic.

This smartly designed "Superchest" is constructed of heavy gauge steel adequately reinforced and welded. It is built to last a lifetime. Drawers with handy compartments operate on free acting suspension slides. Removable "tote"

tray has convenient compartments in which to keep sockets. Heavy duty handles provide for transportation. All drawers are automatically locked when cover is lowered and locked by means of combination lock and hasp. Finished in bright Williams orange enamel.

An individual heavy brass nameplate, on which the owner's name will be engraved free of charge, is furnished with each chest.

## CONTENTS

## "SUPERSOCKETS"

Nomi- nal Open- ing	No.	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut
------------------------------	-----	--	--	--	-------------------------------

MIDGET PATTERN  
1/4" Square Drive  
REGULAR 6-POINT

3/16	M-606				*2 & 3
7/32	M-607				
1/4	M-608				*4
9/32	M-609				

## REGULAR 12-POINT

5/16	M-1210	1/8	1/8		*5 & 6
11/32	M-1211				*8
3/8	M-1212		3/16		*10
7/16	M-1214	1/4	1/4	1/4	*12 & 1/4
1/2	M-1216	1/4	5/16	5/16	

BANTAM PATTERN  
3/8" Square Drive  
REGULAR 12-POINT

3/8	B-1212		3/16		*10
7/16	B-1214		1/4	1/4	1/4
1/2	B-1216	1/4	5/16	5/16	
9/16	B-1218		3/8	3/8	5/16
5/8	B-1220		7/16	7/16	3/8
11/16	B-1222	3/8			
3/4	B-1224		1/2	1/2	7/16

## EXTRA DEEP 12-POINT

13/16	BD-1226		9/16		1/2
-------	---------	--	------	--	-----

STANDARD PATTERN  
1/2" Square Drive  
REGULAR 12-POINT

3/8	ST-1212		3/16		
7/16	ST-1214		1/4	1/4	1/4
1/2	ST-1216	1/4	5/16	5/16	
9/16	SF-618				
9/16	ST-1218		3/8	3/8	5/16
19/32	ST-1219		5/16		
5/8	ST-1220		7/16	7/16	3/8
21/32	ST-1221				
11/16	ST-1222	3/8			
3/4	ST-1224		1/2	1/2	7/16
25/32	ST-1225	7/16			
13/16	ST-1226		9/16		1/2
7/8	ST-1228	1/2	5/8	9/16	9/16
15/16	ST-1230	9/16		5/8	
31/32	ST-1231				
1	ST-1232		3/4		5/8

\* Machine Screw Nut.

## "SUPERSOCKETS"

Nomi- nal Open- ing	No.	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut
------------------------------	-----	--	--	--	-------------------------------

## EXTRA DEEP 12-POINT

11/16	SD-1222	3/8			
13/16	SD-1226		9/16		1/2
7/8	SD-1228T				
1	SD-1232		3/4		5/8

## DRAG LINK SOCKET BITS

15/16	SB-30	Size Blade—7/64 x 15/16"			
1-1/4	SB-40	Size Blade—3/32 x 1-1/4"			

HEAVY DUTY PATTERN  
3/4" Square Drive  
REGULAR 12-POINT

1-1/16	H-1234	5/8		3/4	
1-1/8	H-1236		7/8		3/4
1-1/4	H-1240	3/4		7/8	
1-5/16	H-1242		1		7/8
1-7/16	H-1246	7/8		1	
1-1/2	H-1248		1-1/8		1
1-5/8	H-1252	1		1-1/8	

SOCKET ATTACHMENTS,  
WRENCHES, PLIERS

No.	Piece
-----	-------

MIDGET PATTERN  
1/4" Square Drive

M-20A	Sliding T Handle—4-1/2" long.....
M-51	REVERSIBLE Ratchet—4-1/2" long.....
M-106	Extension Driver—6" long.....

BANTAM PATTERN  
3/8" Square Drive

B-15	Speeder—16-1/2" long, revolving Grip
B-20A	Sliding T Handle—6-1/2" long.....
B-40	Flex Handle—8" long; flexible head..
B-51	REVERSIBLE Ratchet—6-1/2" long.....
B-108	Extension Bar—3" long.....
B-110	Extension Bar—5-3/4" long.....
B-115	Extension Bar—10-1/2" long.....
B-140	Universal Joint.....
BP-2	Phillips Screw Driver Attachment.....
BP-3	Phillips Screw Driver Attachment.....
BP-4	Phillips Screw Driver Attachment.....

SOCKET ATTACHMENTS,  
WRENCHES, PLIERS

No.	Piece
-----	-------

STANDARD PATTERN  
1/2" Square Drive

S-10	Speeder—12" long, revolving Grips..
S-15	Speeder—17-1/2" long, revolving Grip
S-20A	Sliding T Handle—11" long.....
S-41	Flex Handle—17"—flexible head.....
S-52	REVERSIBLE Ratchet, 11-1/4" long.....
S-110P	Extension Bar—5-1/2" long.....
S-115P	Extension Bar—10-1/2" long.....
S-121P	Extension Bar—20" long.....
S-140	Universal Joint.....

HEAVY DUTY PATTERN  
3/4" Square Drive

H-20A	Sliding T Handle—17-1/2" long.....
H-41	Flex Handle—20" long; flexible head..
H-51	REVERSIBLE Ratchet—19" long.....
H-104	Extension Bar—4" long.....
H-110	Extension Bar—8" long.....
H-115	Extension Bar—15-1/2" long.....
H-140	Universal Joint.....

## LONG THIN "SUPERWRENCHES"

1090D	Openings 1/2" & 9/16"—8" long.....
1090D	
1092F	Openings 5/8" & 11/16"—8" long.....
1092F	
1094	Openings 3/4" & 7/8"—9" long.....
1094	

## MIDGET "SUPERWRENCHES"

1106	Openings 13/64 & 7/32"—3" long.....
1107	15/64 & 1/4"—3" long.....
1108	9/32 & 11/32"—3" long.....
1108A	1/4 & 5/16"—3-1/2" long.....
1109	5/16 & 3/8"—3-1/2" long.....

## OPEN END-BOX "SUPERWRENCHES"

1159	Openings 5/16 & 5/16"—5-1/2" lg.
1160	3/8 & 3/8"—6" long.....
1161	7/16 & 7/16"—6-5/8" lg.
1162	1/2 & 1/2"—7-3/16" lg.
1163	9/16 & 9/16"—7-15/16" lg.
1164	5/8 & 5/8"—8-3/4" lg.
1166	3/4 & 3/4"—10-5/8" lg.
1167	7/8 & 7/8"—12-11/16" lg.
1168	15/16 & 15/16"—13-7/8" lg.
1170	1 & 1"—15-1/8" lg.

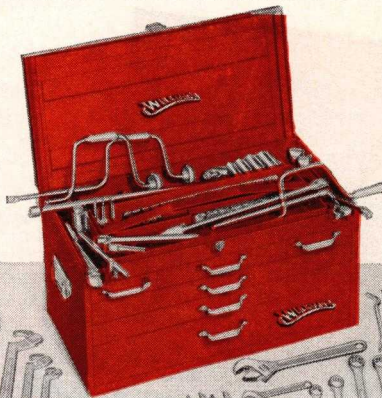
## "SUPERPLIERS"

1517	Pliers, 13"; for brake-shoe springs...
1519	Midget, 4-1/2"; 4-position slip-joint..
1520	Standard, 9-1/2"; 8-position slip-joint..

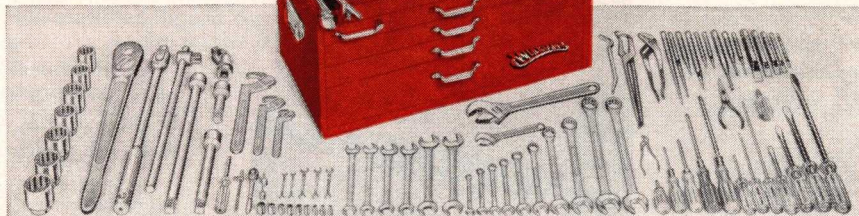


## WILLIAMS' "SUPERCHEST" No. 2001

Complete  
In 6 Drawer  
Metal Chest  
14-1/2 x 12-1/2 x 25"  
Total Wt., 122 lbs.



149 Pieces  
51 Sockets  
37 Attachments  
61 Wrenches, Etc.  
Wt., Chest only — 53 lbs.



A wide range of "Supersockets" with Attachments in 1/4, 3/8, 1/2 and 3/4" drives gives the operator an extremely flexible wrench system. Additional "Superwrenches," pliers, chisels, screwdrivers, etc. make this set remarkably versatile.

All drawers are automatically locked when cover is lowered

and locked by means of combination lock and hasp. Finished in bright Williams orange enamel.

A heavy brass nameplate, on which the owner's name will be engraved free of charge, is furnished with each chest.

"SUPERSOCKETS"					
Nominal Opening	No.	U.S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regl. Nut

MIDGET PATTERN—1/4" Square Drive REGULAR 6-POINT					
3/16	M-606	.....	.....	.....	*2 & 3
7/32	M-607	.....	.....	.....	.....
1/4	M-608	.....	.....	.....	*4
9/32	M-609	.....	.....	.....	.....

REGULAR 12-POINT					
5/16	M-1210	1/8	1/8	.....	*5 & 6
11/32	M-1211	.....	.....	.....	*8
3/8	M-1212	.....	3/16	.....	*10
7/16	M-1214	.....	1/4	1/4	*12 & 1/4
1/2	M-1216	1/4	5/16	5/16	.....

BANTAM PATTERN—3/8" Square Drive REGULAR 12-POINT					
3/8	B-1212	.....	3/16	.....	*10
7/16	B-1214	.....	1/4	1/4	1/4
1/2	B-1216	1/4	5/16	5/16	.....
9/16	B-1218	.....	3/8	3/8	5/16
5/8	B-1220	.....	7/16	7/16	3/8
11/16	B-1222	3/8	.....	.....	.....
3/4	B-1224	.....	1/2	1/2	7/16
13/16	BD-1226	.....	9/16	.....	1/2

UNIVERSAL 12-POINT					
3/8	BU-1212	.....	3/16	.....	*10
7/16	BU-1214	.....	1/4	1/4	*12 & 1/4
1/2	BU-1216	1/4	5/16	5/16	.....
9/16	BU-1218	.....	3/8	3/8	5/16
5/8	BU-1220	.....	7/16	7/16	3/8
11/16	BU-1222	3/8	.....	.....	.....
3/4	BU-1224	.....	1/2	1/2	7/16

STANDARD PATTERN—1/2" Square Drive REGULAR 12-POINT					
3/8	ST-1212	.....	3/16	.....	1/4
7/16	ST-1214	.....	1/4	1/4	.....
1/2	ST-1216	1/4	5/16	5/16	.....
9/16	SF-618	.....	.....	.....	.....
9/16	ST-1218	.....	3/8	3/8	5/16
19/32	ST-1219	5/16	.....	.....	.....
5/8	ST-1220	.....	7/16	7/16	3/8
21/32	ST-1221	.....	.....	.....	.....
11/16	ST-1222	3/8	.....	.....	.....
3/4	ST-1224	.....	1/2	1/2	7/16
25/32	ST-1225	7/16	.....	.....	.....
13/16	ST-1226	.....	9/16	.....	1/2
7/8	ST-1228	1/2	5/8	9/16	9/16
15/16	ST-1230	9/16	.....	5/8	.....
31/32	ST-1231	.....	.....	.....	.....
1	ST-1232	.....	3/4	.....	5/8

EXTRA DEEP 12-POINT					
11/16	SD-1222	3/8	.....	.....	1/2
13/16	SD-1226	.....	9/16	.....	.....
7/8	SD-1228†	.....	.....	.....	.....
1	SD-1232	.....	3/4	.....	5/8

DRAG LINK SOCKET BITS					
15/16	SB-30	Size Blade—7/64 x 15/16"	.....	.....	.....
1-1/4	SB-40	Size Blade—3/32 x 1-1/4"	.....	.....	.....

\* Machine Screw Nut. † Extra Deep Socket.

"SUPERSOCKETS"					
Nominal Opening	No.	U.S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regl. Nut

HEAVY DUTY PATTERN—3/4" Square Drive REGULAR 12-POINT					
1-1/16	H-1234	5/8	.....	3/4	.....
1-1/8	H-1236	.....	7/8	.....	3/4
1-1/4	H-1240	3/4	.....	7/8	.....
1-5/16	H-1242	.....	1	.....	7/8
1-7/16	H-1246	7/8	.....	1	.....
1-1/2	H-1248	.....	1-1/8	.....	1
1-5/8	H-1252	1	.....	1-1/8	.....

## SOCKET ATTACHMENTS, WRENCHES, Etc.

No.	Piece
MIDGET PATTERN—1/4" Square Drive	
M-20A	Sliding T Handle—4-1/2" long.....
M-51	REVERSIBLE Ratchet, 4-1/2" long.....
M-106	Extension Driver—6" long.....
MP-1	Phillips Screw Driver Attachment.....
MP-2	Phillips Screw Driver Attachment.....

BANTAM PATTERN—3/8" Square Drive	
B-15	Speeder—16-1/2" long, revol. Grip.....
B-20A	Sliding T Handle—6-1/2" long.....
B-40	Flex Handle—8" long; flexible head.....
B-51	REVERSIBLE Ratchet, 6-1/2" long.....
B-108	Extension Bar—3" long.....
B-110	Extension Bar—5-3/4" long.....
B-115	Extension Bar—10-1/2" long.....
B-140	Universal Joint.....
BP-2	Phillips Screw Driver Attachment.....
BP-3	Phillips Screw Driver Attachment.....
BP-4	Phillips Screw Driver Attachment.....
BS-130	Adapter 1/2" sq. female; 1/2" sq. male.....

STANDARD PATTERN—1/2" Square Drive	
S-10	Speeder—12" long, revolving Grips.....
S-15	Speeder—17-1/2" long, rev. Grips.....
S-20A	Sliding T Handle—11" long.....
S-41	Flex Handle—17"—flexible head.....
S-52	REVERSIBLE Ratchet, 11-1/4" long.....
S-55	REVERSIBLE Ratchet Adapter.....
S-110P	Extension Bar—5-1/2" long.....
S-115P	Extension Bar—10-1/2" long.....
S-121P	Extension Bar—20" long.....
S-140	Universal Joint.....
SH-130	Adapter 1/2" sq. female; 3/4" sq. male.....

HEAVY DUTY PATTERN—3/4" Square Drive	
H-20A	Sliding T Handle—17-1/2" long.....
H-41	Flex Handle—20" long; flexible head.....
H-51	REVERSIBLE Ratchet—19" long.....
H-104	Extension Bar—4" long.....
H-110	Extension Bar—8" long.....
H-115	Extension Bar—15-1/2" long.....
H-140	Universal Joint.....

LONG THIN "SUPERWRENCHES"	
1090D	Two with Openings 1/2" & 9/16".....
1092F	Two with Openings 5/8" & 11/16".....
1094	Two with Openings 3/4" & 7/8".....

SPECIAL "SUPERWRENCH"	
1998B	For Star Nut, etc.—Bendix Hydraulic.....

## SOCKET ATTACHMENTS, WRENCHES, Etc.

No.	Piece
MIDGET "SUPERWRENCHES"	
1106	Openings 13/64" & 7/32" } 3" long.....
1107	" 15/64" & 1/4" }
1108	" 9/32" & 11/32" }
1108A	" 1/4" & 5/16" } 3-1/2" long
1109	" 5/16" & 3/8" }

OPEN END-BOX "SUPERWRENCHES"	
1159	Openings 5/16" & 5/16"—5-1/2" long
1160	" 3/8" & 3/8"—6" long.....
1161	" 7/16" & 7/16"—6-5/8" long
1162	" 1/2" & 1/2"—7-3/16" lg.
1163	" 9/16" & 9/16"—7-15/16" lg.
1164	" 5/8" & 5/8"—8-3/4" long
1166	" 3/4" & 3/4"—10-5/8" long
1167	" 7/8" & 7/8"—12-11/16" lg.
1168	" 15/16" & 15/16"—13-7/8" lg.
1170	" 1" & 1"—15-1/8" lg.

ADJUSTABLE HOOK SPANNERS	
1471	Capacity for Circles, 3/4 to 2".....
1472	" " " 1-1/4 to 3".....
1474	" " " 2 to 4-3/4".....

"SUPERJUSTABLES"	
6"	Capacity—3/4".....
12"	Capacity—1-5/16".....

"SUPERPLIERS," ETC.	
6	Combination Slip-Joint Pliers—6".....
46	Diagonal Cutting Pliers—6".....
76	Needle Nose Side Cutting Pliers—6".....
1517	Pliers, 13"; for brake-shoe springs.....
1519	Midget, 4-1/2"; 4-position slip-joint.....
1520	Standard, 9-1/2"; 8-position slip-joint.....

SCREW DRIVERS	
4	Square Blade—length 4".....
6	Square Blade—length 6".....
8	Square Blade—length 8".....
12	Square Blade—length 12".....
43	Round Blade—length 3".....
46	Round Blade—length 6".....
50	Round Blade—length 10".....
62	Regular Stubby—blade length, 1-1/2"
WP-1	Phillips Screws No. 4 and smaller.....
WP-2	Phillips Screws No. 5 to 9 inclusive.....
WP-3	Phillips Screws No. 10 to 16 inclusive.....
WP-4	Phillips Screws No. 18 and larger.....
WP-62	Phillips Stubby, Screws No. 5 to 9 incl.

PUNCHES & CHISELS	
P-4	Pin Punch—6" long—1/8" point.....
P-6	Pin Punch—6" long—3/16" point.....
P-8	Pin Punch—8" long—1/4" point.....
P-13	Solid Punch—6" long—3/32" point.....
P-14	Solid Punch—8" long—1/8" point.....
P-25	Long Taper Punch—9"; 5/32" point.....
P-26	Long Taper Punch—10"; 3/16" point.....
P-30	Prick Punch—5" long.....
P-40	Center Punch—5" long.....
C-8	Cold Chisel—1/4"—4-3/4" long.....
C-12	Cold Chisel—3/8"—5-1/2" long.....
C-16	Cold Chisel—1/2"—6" long.....
C-20	Cold Chisel—5/8"—6-1/2" long.....
C-24	Cold Chisel—3/4"—7" long.....

BALL PEIN HAMMER	
2-0	Ball Pein Hammer, 3/4 lb., 13-1/2".....



## WILLIAMS' MOBILE TOOL CABINET

This entire Mobile Tool Cabinet is made of heavy gauge steel. Corners and ends are heavily reinforced to insure a long serviceable life.

Cabinet is easily moved on four 3" ball-bearing rubber-tired casters, two of which are equipped with side brakes that lock in non-rolling position.

Steel front for bottom compartment is fitted with a cylinder lock which, when locked in closed position, automatically locks the three drawers above.

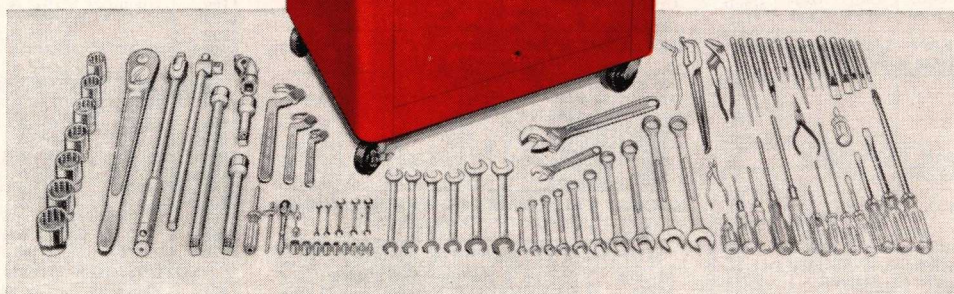


Top will accommodate Nos. 1001 or 2001 "Superchests" listed on Pages 38 and 39.

Removable tempered Masonite top allows a choice of working surface. Finished in Williams orange enamel, all hardware in bright chrome.

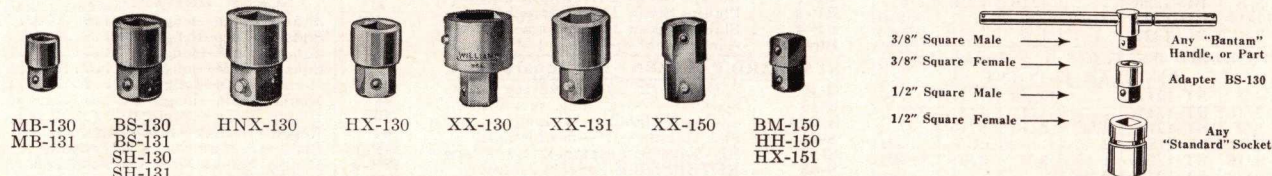
An individual heavy brass name plate, on which the owner's name will be engraved free of charge, is furnished with each cabinet.

Overall size—17" deep x 25" wide x 32" high. Two drawers measure 3 x 17 x 19-1/2", one 4-5/8 x 17 x 19-1/2". Bottom compartment dimensions are 13 x 17 x 25".



No.	Description	Wgt. Each
<b>TC-100</b>	Mobile Tool Cabinet only . . . . .	84.5
<b>TC-200</b>	Mobile Tool Cabinet with No. 1001 Tool Assortment without "Superchest" (See Page 38 for contents) . . . . .	139.0
<b>TC-300</b>	Mobile Tool Cabinet with No. 2001 Tool Assortment without "Superchest" (See Page 39 for contents) . . . . .	153.5
<b>TC-400</b>	Mobile Tool Cabinet with No. 1001 Tool Assortment complete with "Superchest" (See Page 38 for contents) . . . . .	171.0
<b>TC-500</b>	Mobile Tool Cabinet with No. 2001 Tool Assortment complete with "Superchest" (See Page 39 for contents) . . . . .	206.5

### ADAPTERS FOR SUPERSOCKET® HANDLES AND PARTS



Williams Adapters provide for the use of Sockets of one pattern with Handles and Parts of another pattern.

**MILITARY DESCRIPTION: MIL-W-15838A, TYPE III, CLASS I, STYLE A, REGULAR ADAPTER ATTACHMENTS  
GGG-W-641A, TABLE 10, ADAPTERS**

No.	ADAPTER	Wgt. Each	No.
<b>BM-150</b>	3/8" Square male and 1/4" square male—Adapts Sockets with 3/8" square drive to MR-51 Refrigeration Ratchet. . . . .	.03	<b>BM-150</b>
<b>MB-130</b>	1/4" Square female and 3/8" square male—Adapts Parts with 1/4" square drive to Sockets with 3/8" square drive . . . . .	.05	<b>MB-130</b>
<b>MB-131</b>	1/4" Square male and 3/8" square female—Adapts Sockets with 1/4" square drive to Parts with 3/8" square drive . . . . .	.05	<b>MB-131</b>
<b>BS-130</b>	1/2" Square male and 3/8" square female—Adapts Parts with 3/8" square drive to Sockets with 1/2" square drive . . . . .	.13	<b>BS-130</b>
<b>BS-131</b>	3/8" Square male and 1/2" square female—Adapts Sockets with 3/8" square drive to Parts with 1/2" square drive . . . . .	.15	<b>BS-131</b>
<b>SH-130</b>	3/4" Square male and 1/2" square female—Adapts Parts with 1/2" square drive to Sockets with 3/4" square drive . . . . .	.31	<b>SH-130</b>
<b>SH-131</b>	3/4" Square female and 1/2" square male—Adapts Parts with 3/4" square drive to Sockets with 1/2" square drive . . . . .	.44	<b>SH-131</b>
<b>HNX-130</b>	1" Hex male and 3/4" square female—Adapts Parts with 3/4" square drive to Sockets with 1" hex drive. . . . .	.59	<b>HNX-130</b>
<b>HNX-130</b>	1" Square male and 3/4" square female—Adapts Parts with 3/4" square drive to Sockets with 1" square drive . . . . .	1.7	<b>HNX-130</b>
<b>XX-130</b>	1" Hex male and 1" square female—Adapts Sockets with 1" hex drive to Parts with 1" square drive. . . . .	1.2	<b>XX-130</b>
<b>XX-131</b>	1" Hex female and 1" square male—Adapts Sockets with 1" square drive to Parts with 1" hex drive. . . . .	.93	<b>XX-131</b>
<b>HH-150</b>	5/8" Square male and 3/4" square male—Adapts Sockets with 5/8" square drive to Ratchets with 3/4" square drive . . . . .	.20	<b>HH-150</b>
<b>HX-151</b>	1" Square male and 3/4" square male—Adapts Sockets with 1" square drive to Ratchets with 3/4" square drive . . . . .	.44	<b>HX-151</b>
<b>XX-150</b>	1" Square male and 1" hex male—Adapts Sockets with 1" square drive to Ratchets with 1" hex drive. . . . .	.53	<b>XX-150</b>



## WILLIAMS' SUPERSOCKET® WRENCH SETS

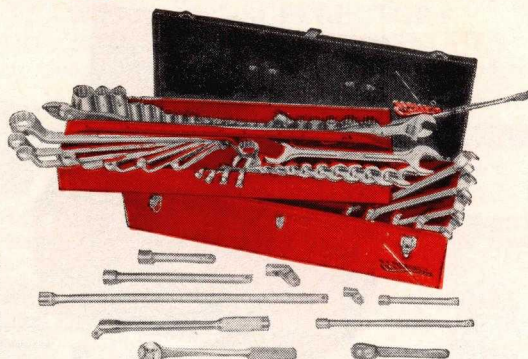
Selected Alloy Steel

## FOR DIESEL ENGINE SERVICE

SET No. DLM-52  
For Diesel Engine  
MechanicsSET No. DLE-53  
For Diesel Engine  
ElectriciansSET No. DLP-65  
For Diesel Engine  
Pipe Fitters

All Sets Complete in Metal Case, 6-3/4 x 7-1/2 x 23-1/4"

These sets are specially designed for mechanics, electricians and pipe fitters who service diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. They are particularly adapted for use by manufacturers of diesel powered equipment who require service tools as part of the original equipment or in assembly work.



Set Illustrated is DLP-65

## SET No. DLM-52

No.	Description
<b>BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS</b>	
B-51	Reversible Ratchet, 6-1/2" long.....
B-115	Extension Bar, 10-1/2" long.....
B-140	Universal Joint.....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
B-1222	11/16" Socket 12-Pt. Opening.....
BU-1216	1/2" Universal Socket 12-Pt.....
BU-1218	9/16" Universal Socket 12-Pt.....

STANDARD 1/2" DRIVE  
SOCKETS and ATTACHMENTS

S-52	Reversible Ratchet, 11-1/4" long.....
S-15	Speeder, 17-1/2" long.....
S-41	Flex. Handle, 17-1/4" long.....
S-110P	Extension Bar, 5-1/2" long.....
S-115P	Extension Bar, 10-1/2" long.....
S-140	Universal Joint.....
ST-1212	3/8" Socket 12-Pt. Opening.....
ST-1214	7/16" Socket 12-Pt. Opening.....
ST-1216	1/2" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1226	13/16" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1230	15/16" Socket 12-Pt. Opening.....
ST-1232	1" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
ST-1238	1-3/16" Socket 12-Pt. Opening.....
ST-1240	1-1/4" Socket 12-Pt. Opening.....
SD-1216	1/2" Extra Deep Socket, 12-Pt.....
SD-1224	3/4" Extra Deep Socket, 12-Pt.....

DOUBLE OFFSET-BOX  
"SUPERRENCHES"

8725B	1/2 x 9/16" Opening.....
8727	9/16 x 5/8" Opening.....
8727A	5/8 x 11/16" Opening.....
8731A	3/4 x 7/8" Opening.....
8033A	7/8 x 15/16" Opening.....

D. H. ENGINEERS' 15° Angle  
"SUPERRENCHES"

1723	3/8 x 7/16" Opening.....
1725	7/16 x 1/2" Opening.....
1725B	1/2 x 9/16" Opening.....
1727	9/16 x 5/8" Opening.....
1027B	5/8 x 11/16" Opening.....
1029B	11/16 x 3/4" Opening.....
1731A	3/4 x 7/8" Opening.....
1033A	7/8 x 15/16" Opening.....
1033C	15/16 x 1" Opening.....

## PLIERS

370	Side Cutting Pliers, 7".....
46	Diagonal Cutting Pliers, 6".....

## SCREW DRIVERS

28	Screw Driver, 8".....
32	Screw Driver, 12".....

## "SUPERJUSTABLE"

8"	"Superjustable" Wrench.....
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## SET No. DLE-53

No.	Description
<b>BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS</b>	
B-51	Reversible Ratchet, 6-1/2" long.....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
B-1222	11/16" Socket 12-Pt. Opening.....
B-1224	3/4" Socket 12-Pt. Opening.....
BD-1226	13/16" Extra Deep Socket 12-Pt.....
B-140	Universal Joint.....

STANDARD 1/2" DRIVE  
SOCKETS and ATTACHMENTS

S-52	Reversible Ratchet, 11-1/4" long.....
S-15	Speeder, 17-1/2" long.....
SB-30	Screw Driver Attachment.....
S-140	Universal Joint.....
ST-1212	3/8" Socket 12-Pt. Opening.....
ST-1214	7/16" Socket 12-Pt. Opening.....
ST-1216	1/2" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1219	19/32" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1225	25/32" Socket 12-Pt. Opening.....
ST-1226	13/16" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1230	15/16" Socket 12-Pt. Opening.....
ST-1232	1" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
ST-1238	1-3/16" Socket 12-Pt. Opening.....
ST-1240	1-1/4" Socket 12-Pt. Opening.....

D. H. ENGINEERS' 15° Angle  
"SUPERRENCHES"

1721	5/16 x 3/8" Openings.....
1723	3/8 x 7/16" Openings.....
1725	7/16 x 1/2" Openings.....
1725B	1/2 x 9/16" Openings.....
1727	9/16 x 5/8" Openings.....
1027	19/32 x 11/16" Openings.....
1027B	5/8 x 11/16" Openings.....
1729	5/8 x 3/4" Openings.....
1029B	11/16 x 3/4" Openings.....
1731A	3/4 x 7/8" Openings.....
1031B	25/32 x 13/16" Openings.....
1033A	7/8 x 15/16" Openings.....
1033C	15/16 x 1" Openings.....
1735	1 x 1-1/8" Openings.....
1036B	1-1/16 x 1-1/8" Openings.....

## PLIERS

46	Diagonal Pliers, 6".....
76	Needle Nose Pliers, 6".....
370	Side Cutting Pliers, 7".....

## SCREW DRIVERS

28	Screw Driver, 8".....
32	Screw Driver, 12".....
62	Stubby Screw Driver.....

## "SUPERJUSTABLE"

10"	"Superjustable" Wrench.....
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## SET No. DLP-65

No.	Description
<b>BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS</b>	
B-51	Reversible Ratchet, 6-1/2" long.....
B-110	Extension Bar, 5-1/2" long.....
B-115	Extension Bar, 10-1/2" long.....
B-140	Universal Joint.....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
B-1222	11/16" Socket 12-Pt. Opening.....
B-1224	3/4" Socket 12-Pt. Opening.....
BD-1216	1/2" Extra Deep Socket 12-Pt.....
BD-1220	5/8" Extra Deep Socket 12-Pt.....
BD-1224	3/4" Extra Deep Socket 12-Pt.....

STANDARD 1/2" DRIVE  
SOCKETS and ATTACHMENTS

S-40	Flex Handle, 12" long.....
S-52	Reversible Ratchet, 11-1/4" long.....
S-110P	Extension Bar, 5-1/2" long.....
S-115P	Extension Bar, 10-1/2" long.....
S-121P	Extension Bar, 20" long.....
S-140	Universal Joint.....
ST-1216	3/8" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
SU-1224	3/4" Universal Socket 12-Pt.....
SD-1224	3/4" Extra Deep Socket 12-Pt.....
SD-1228	7/8" Extra Deep Socket 12-Pt.....
SD-1236	1-1/8" Extra Deep Socket 12-Pt.....

DOUBLE OFFSET-BOX  
"SUPERRENCHES"

8723	3/8 x 7/16" Openings.....
8725B	1/2 x 9/16" Openings.....
8727	9/16 x 5/8" Openings.....
8727A	5/8 x 11/16" Openings.....
8729	5/8 x 3/4" Openings.....
8731A	3/4 x 7/8" Openings.....
8037	1-1/16 x 1-1/4" Openings.....
9723	3/8 x 7/16" (Short Pattern).....
9725B	1/2 x 9/16" (Short Pattern).....
9725	7/16 x 1/2" (Short Pattern).....
9727	9/16 x 5/8" (Short Pattern).....

FLARE NUT PATTERN  
"SUPERRENCHES"

1318	9/16" Opening.....
1320	5/8" Opening.....
1322	11/16" Opening.....
1324	3/4" Opening.....
1328	7/8" Opening.....
1332	1" Opening.....
1334	1-1/16" Opening.....
1336	1-1/8" Opening.....

D. H. ENGINEERS' 15° Angle  
"SUPERRENCHES"

1723	3/8 x 7/16" Openings.....
1725	7/16 x 1/2" Openings.....
1725B	1/2 x 9/16" Openings.....
1727	9/16 x 5/8" Openings.....
1027B	5/8 x 11/16" Openings.....
1729	5/8 x 3/4" Openings.....
1029B	11/16 x 3/4" Openings.....
1731A	3/4 x 7/8" Openings.....
1031B	25/32 x 13/16" Openings.....
1033A	7/8 x 15/16" Openings.....
1036B	1-1/16 x 1-1/8" Openings.....

## MISCELLANEOUS TOOLS

8"	"Superjustable" Wrench.....
370	Side Cutting Pliers, 7".....
32	Screw Driver, 12".....



## WILLIAMS' SUPERSOCKET® WRENCH SETS

Selected Alloy Steel

FOR GENERAL DIESEL ENGINE SERVICE

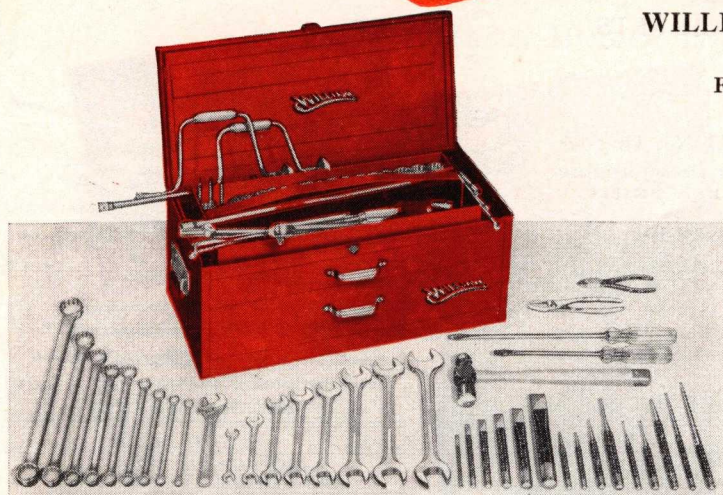
SET No. DLS-70

Complete in Metal Chest

11 x 10 x 25"

This set is specially designed for mechanics doing general service work on diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. It contains all the standard tools needed for general diesel engine service work. Ideal for all diesel locomotive service shops.

Chest is constructed of heavy gauge steel adequately reinforced and welded. Drawers with handy compartments operate on free acting suspension slides. Has removable "tote" tray. All drawers lock automatically when cover is lowered.



One Ea.	Description
<b>1/2" DR. SOCKETS &amp; PARTS</b>	
S-10	Speeder, 12" long
S-15	Speeder, 17-1/2" long
S-20A	Sliding T Handle, 11" lg.
S-41	Flex Handle, 17-1/4" lg.
S-52	Rvsbl. Ratchet, 11-1/4"
S-110P	Ext. Bar, 5-1/2" long
S-115P	Ext. Bar, 10-1/2" long
S-140	Universal Joint
ST-1212	3/8" 12 Pt. Socket
ST-1214	7/16" 12 Pt. Socket
ST-1216	1/2" 12 Pt. Socket
ST-1218	9/16" 12 Pt. Socket
ST-1219	19/32" 12 Pt. Socket
ST-1220	5/8" 12 Pt. Socket
ST-1222	11/16" 12 Pt. Socket
ST-1224	3/4" 12 Pt. Socket
ST-1225	25/32" 12 Pt. Socket
ST-1226	13/16" 12 Pt. Socket
ST-1228	7/8" 12 Pt. Socket
ST-1230	15/16" 12 Pt. Socket
ST-1231	31/32" 12 Pt. Socket
ST-1232	1" 12 Pt. Socket
ST-1234	1-1/16" 12 Pt. Socket
ST-1236	1-1/8" 12 Pt. Socket
ST-1238	1-3/16" 12 Pt. Socket
ST-1240	1-1/4" 12 Pt. Socket

One Ea.	Description
<b>3/4" DR. SOCKETS &amp; PARTS</b>	
H-20A	Sliding T Hdle., 17-1/2"
H-41B	Flex Handle, 20" long
H-110	Sliding Bar for H-41
H-104	Extension Bar, 4" long
H-110	Extension Bar, 8" long
H-115	Ext. Bar, 15-1/2" long
H-140	Universal Joint
H-1228	7/8" 12 Pt. Socket
H-1230	15/16" 12 Pt. Socket
H-1232	1" 12 Pt. Socket
H-1234	1-1/16" 12 Pt. Socket
H-1236	1-1/8" 12 Pt. Socket
H-1238	1-3/16" 12 Pt. Socket
H-1240	1-1/4" 12 Pt. Socket
H-1242	1-5/16" 12 Pt. Socket
H-1244	1-3/8" 12 Pt. Socket
H-1246	1-7/16" 12 Pt. Socket
H-1248	1-1/2" 12 Pt. Socket
H-1252	1-5/8" 12 Pt. Socket

**"SUPERJUSTABLES"**

8" "Superjustable" Wrench

One Ea.	Description
<b>15° OFFSET-BOX "SUPERRENCHES"</b>	
7723	3/8 x 7/16" opening
7725	7/16 x 1/2" opening
7725B	1/2 x 9/16" opening
7727	9/16 x 5/8" opening
7729	5/8 x 3/4" opening
7029B	11/16 x 3/4" opening
7731A	3/4 x 7/8" opening
7033C	15/16 x 1" opening
7735A	1-1/16 x 1-1/8" opening
7037	1-1/16 x 1-1/4" opening

**D. H. ENGINEERS' 15° Angle "SUPERRENCHES"**

1723	3/8 x 7/16" opening
1725B	1/2 x 9/16" opening
1729	5/8 x 3/4" opening
1029	11/16 x 25/32" opening
1731A	3/4 x 7/8" opening
1033C	15/16 x 1" opening
1036B	1-1/16 x 1-1/8" opening
1737	1-1/8 x 1-1/4" opening

One Ea.	Description
<b>PLIERS, SCREW DRIVERS and HAMMER</b>	
370	Side Cutting Pliers, 7"
46	Diag. Cutting Pliers, 6"
28	Screw Driver, 8"
32	Screw Driver, 12"
2	Ball Pein Hammer

**PUNCHES and CHISELS**

P-4	1/8" Pin Punch
P-6	3/16" Pin Punch
P-8	1/4" Pin Punch
P-13	3/32" Solid Punch
P-14	1/8" Solid Punch
P-25	5/32" Long Taper Punch
P-26	3/16" Long Taper Punch
P-30	Prick Punch
P-40	Center Punch
C-8	1/4" Cold Chisel
C-12	3/8" Cold Chisel
C-16	1/2" Cold Chisel
C-20	5/8" Cold Chisel
C-24	3/4" Cold Chisel
C-36	1-1/8" Cold Chisel

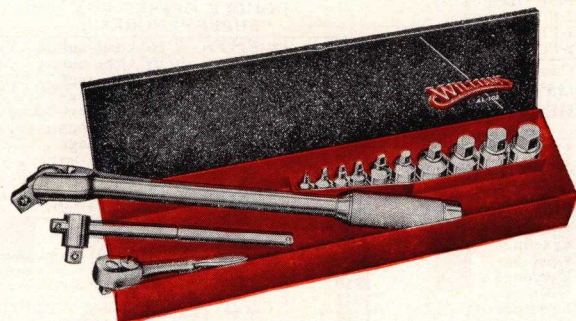
## WILLIAMS' SUPERSOCKET® WRENCHES FOR HOLLOW SCREWS

SET No. AL-102

Complete in Metal Case

1-1/2 x 3 x 12-1/2"

13 Pieces — 10 Sockets and 3 Attachments



Replacing old type L-shape wrenches, bent from hex bar steel, these tools provide all the advantages of the Detachable Socket Wrench system for users of Hollow-Screws. Only Williams Bits have knurled end for fast spinning of screws before tightening. Can be interchanged with 1/4, 3/8 and 1/2" square drives.

No.	HANDLES and PARTS	Std. Pkg.
M-51	Reversible "Superratchet"—1/4" Sq. Drive, 4-1/2" long	6
B-20A	Sliding T Handle—3/8" Square Drive, 6-1/2" long	6
S-40	Flex Handle—1/2" Sq. Drive, 12" long, flexible head	6

**"SUPERSOCKET" BITS—Sold in SET No. AL-102 or Individually**

Bit No.	Hex. Plug, Size	Square Drive	Std. Pkg.	For Hollow Screws	
				Set Screw	Cap Screw
AM-604	1/8	1/4	6	1/4	No. 8
AM-605	5/32	1/4	6	5/16	10 & 12
AM-606	3/16	1/4	6	3/8	1/4
AM-607	7/32	1/4	6	7/16	5/16
AB-608	1/4	3/8	6	1/2 & 9/16	
AB-610	5/16	3/8	6	5/8	3/8 & 7/16
AS-612	3/8	1/2	6	3/4	1/2 & 9/16
AS-616	1/2	1/2	6	7/8	5/8
AS-618	9/16	1/2	6	1 & 1 1/8	3/4 & 7/8
AS-620	5/8	1/2	6	1 1/4 & 1 3/8	1

## WILLIAMS' RATCHET WRENCHES

For speedy and accurate adjustment of all valves.



No. MR-51 — Standard Package—6.

This 6" drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems.



No. B-50A — Standard Package—6.

Has 1/4" square drive-opening in ratchet; also, 1/4" square hole near end of handle. Length, 6-1/2".

No. B-50B — Standard Package—6.

Has 5/16" square ratchet drive-opening. Length, 6-1/2".

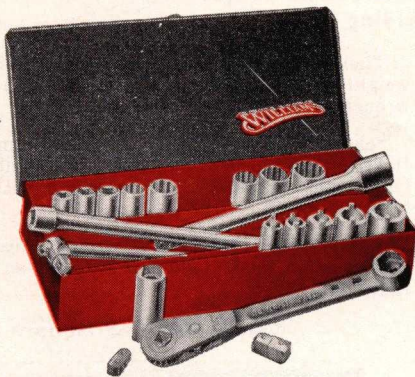


## WILLIAMS' SUPERSOCKET® WRENCHES

Selected Alloy Steel  
FOR REFRIGERATION SERVICE

SET No. R-19A  
20 Pieces  
Steel Case  
1-1/4x3-3/8x7-3/4"

For servicing and repairing all makes of electric refrigerators. Sockets, accessories and specially designed ratchet available individually or in set.



M-406 to  
M-812



MR-15



MR-2 to  
MR-10



B-1214 to  
B-1218

### CONTENTS

#### Midget "Supersockets" 1/4" Square Drive

No.	Square Opening	Diameter	
		Nose	Base
M-406	3/16	7/16	1/2
M-407	7/32	15/32	1/2
M-408	1/4	1/2	1/2
M-810	5/16	9/16	9/16
M-812	3/8	11/16	11/16

#### Kerotest Valve Packing Nut Socket 1/4" Square Drive

No.	Oval Opening	Extreme Size	
		Diam.	Lght.
MR-15	1/2x3/8	5/8	1 1/2

#### Packing Gland Nut "Supersockets" 1/4" Sq. Drive

No.	Size Prongs		Diameter	
	Depth	Width	In-side	Out-side
MR-2	3/32	5/64	21/64	7/16
MR-4	3/32	1/8	21/64	15/32
MR-6	3/32	7/64	21/64	9/16
MR-8	1/8	1/8	29/64	11/16
MR-10	3/32	5/64	9/16	13/16

#### Bantam "Supersockets" 3/8" Square Drive

No.	12-Point Opening	Diameter	
		Nose	Base
B-1214	7/16	39/64	21/32
B-1216	1/2	11/16	11/16
B-1218	9/16	49/64	49/64

### HANDLES and PARTS

No.	PIECE
MR-51	This 6" light weight drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems, etc.
M-20A	Sliding T Handle—4-1/2" long; 1/4" square male drive.
B-110	Extension—5-1/2" long; 3/8" square drive, male and female
M-115	Extension—6" long; 1/4" square drive, male and female.
M-150	Plug Adapter—3/4" long; both ends 1/4" square male.
BM-150	Adapter—3/8" square male and 1/4" square male.

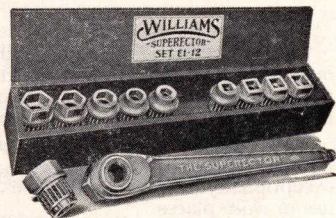
## SUPERECTOR®

### SET No. E1-12

12 Pieces

In Wooden Box  
36 x 6 x 5-1/2"

"Superector" Wrench  
and 11 Sockets



### CONTENTS

One Ea. No.	Description	One Ea. No.	Description
E1-417	1-1/16"—Square Socket...	E1-623	1- 7/16"—Hex Socket ...
E1-420	1-1/4"—Square Socket...	E1-626	1- 5/8"—Hex Socket ...
E1-423	1-7/16"—Square Socket...	E1-629	1-13/16"—Hex Socket ...
E1-426	1-5/8"—Square Socket...	E1-632	2"—Hex Socket ...
E1-617	1-1/16"—Hex Socket ...	E1-635	2- 3/16"—Hex Socket ...
E1-620	1-1/4"—Hex Socket ...	E1-24	Reversible Ratchet, 24"

## WILLIAMS' SUPERECTOR®

### REVERSIBLE RATCHET WRENCHES

With Quadruple Pawls and Drop-Forged Handles



SOCKETS have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt.



Hex  
Sockets

QUADRUPLE PAWLS. Instead of the usual single pawl, bearing against one gear tooth, the "Superector" provides increased bearing and strength by 2 pawls engaging 2 teeth for both ON and OFF rotation of nuts.



Square  
Sockets

HANDLE, or Wrench proper, is drop-forged—not cast—in order to utilize the extra strength afforded by the pawls.

GEAR TEETH. The "Superector" is the only line of wrenches of this type with 20 teeth in all socket gears, instead of the usual 16 teeth. Consequently, all wrenches will rotate nuts with only an 18° swing of the wrench as against 22-1/2°.

SHIFTER-LEVER, when in neutral, completely disengages all pawls for easy insertion and removal of the Socket. A flip of the lever reverses the action of the wrench.

SOCKET RETAINING COLLAR has a projection on its inner surface which registers easily with a corresponding slot in the neck of the Socket. No fumbling for set screw "spots" when engaging the headless, slotted socket screws.

COVER PLATE, securely seated in the wrench head, is fastened by one screw, fully enclosing the mechanism and permitting easy removal.

FINISH. Wrenches and Sockets are finished in baked light gray enamel.

Whitworth Standard sizes available; see Catalog A-535.

MILITARY DESCRIPTION:  
MIL-W-16148, TYPE III, CLASS I, PROTRUDING HEAD, SINGLE SIZE,  
REVERSE MECHANISM IN HEAD  
GGG-W-00653, TYPE III, CLASS I, PROTRUDING HEAD, SINGLE SIZE,  
REVERSE MECHANISM IN HEAD

### WRENCHES

No.	Length	Std. Pkg.	No.	Length	Std. Pkg.
E1-24	24	1	E2-48	48	1
E1-36	36	1	E3-48	53	1
E2-36	36	1			

### SOCKETS

Nominal Opening, Size Across Flats	Number		Amer. Std. Heavy Nut (U.S.S.) Hex & Sqr.	Amer. Std. Light Nut (S.A.E.) Hex Only	Amer. Std. Regular Nut Hex & Sqr.
Hex Socket	Std. Pkg.	Square Socket Std. Pkg.			

#### E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY

No.	Socket	Wrench	Socket	Wrench	Socket	Wrench
1	1/16	E1-617	1	E1-416	1	5/8
1	1/8	E1-618	1	E1-417	1	5/8
1	1/4	E1-619	1	E1-418	1	3/4
1	5/16	E1-621	1	E1-420	1	7/8
1	7/16	E1-622	1	E1-421	1	7/8
1	1/2	E1-623	1	E1-422	1	1
1	5/8	E1-624	1	E1-423	1	1 1/8
1	11/16	E1-625	1	E1-424	1	1 1/8
1	3/4	E1-626	1	E1-425	1	1 1/4
1	13/16	E1-627	1	E1-426	1	1 1/4
1	7/8	E1-628	1	E1-427	1	1 3/8
2	1/16	E1-629	1	E1-428	1	1 3/8
2	1/8	E1-630	1	E1-429	1	1 1/2
2	1/4	E1-631	1	E1-430	1	1 1/2
2	5/16	E1-632	1	E1-431	1	1 3/4
2	3/16	E1-633	1	E1-432	1	1 3/4
2	1/4	E1-634	1	E1-433	1	1 1/2
2	1/4	E1-635	1	E1-434	1	1 1/2
2	1/4	E1-636	1	E1-435	1	1 1/2

#### E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY

No.	Socket	Wrench	Socket	Wrench	Socket	Wrench
2	3/16	E2-632	1	E2-432	1	1 3/8
2	3/8	E2-633	1	E2-433	1	1 1/2
2	9/16	E2-634	1	E2-434	1	1 1/2
2	3/4	E2-635	1	E2-435	1	1 5/8
2	15/16	E2-636	1	E2-436	1	1 3/4
3	1/8	E2-637	1	E2-437	1	1 7/8
3	1/8	E2-638	1	E2-438	1	2

#### E3 SOCKETS below fit E3-48 Wrenches ONLY

No.	Socket	Wrench	Socket	Wrench	Socket	Wrench
3	1/8	E3-650	1	E3-450	1	2
3	1/2	E3-651	1	E3-451	1	2 1/4
3	7/8	E3-652	1	E3-452	1	2 1/2
4	1/4	E3-653	1	E3-453	1	2 3/4
4	5/8	E3-654	1	E3-454	1	3

See page 72 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.



**WILLIAMS' TORQUE MEASURENRENCHES®**

Selected Alloy Steel

For Measuring Right and Left Hand Torque

By Sight Reading

This new series of torque wrenches employs the time-proven converging scale method of torque reading developed and patented by Williams.

Accuracy is not dependent on delicate gears, levers or dials. There are no mechanisms to get out of order. Selected alloy steel construction throughout assures years of accurate performance. They are built to withstand hard abuse. Even ordinary accidents such as dropping will not destroy the accuracy of these Torque "Measurrenches".

Calibrations are machine cut to insure long life, accuracy and easy reading of the indicated torque.

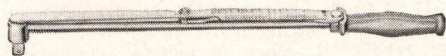
Their streamlined appearance is indicative of the light weight and proportional balance used in the design of these wrenches.

Selected alloy steel is accurately machined and heat-treated. Chrome-plated finish with calibrated areas buffed. Operating instructions are supplied with each individually boxed wrench.

This series of Williams Torque "Measurrenches" may be purchased in a convenient set of four as illustrated below or individually.

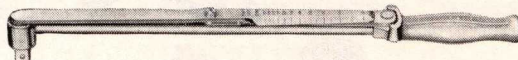
**Bantam—3/8" Square Drive**

B-58A Pat'd.

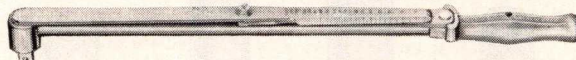


B-58 Pat'd.

No.	Capacity	Extreme Length, Approx.
<b>B-58A</b>	0 to 150 inch pounds	12 1/4
<b>B-58</b>	0 to 600 inch pounds	15 1/2

**Standard—1/2" Square Drive**

S-58A Pat'd.



S-58 Pat'd.

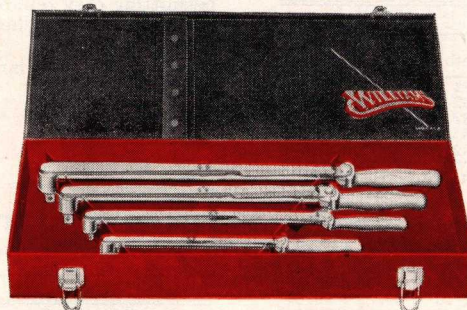
No.	Capacity	Extreme Length, Approx.
<b>S-58A</b>	0 to 100 foot pounds	18
<b>S-58</b>	0 to 200 foot pounds	19 7/8

SET No. T4-58

Complete

In Metal Case

2-1/2 x 8-1/2 x 20-7/8"



Contains One Each

Nos. B-58A, B-58, S-58A  
and S-58 Torque Wrenches**No. S-57 TORQUE MEASURENRENCH®**

REVERSIBLE RATCHET WITH R. H. TORQUE INDICATING SOUND SIGNAL

Standard Pattern — 1/2" Square Drive



PATENTED

No. S-57 Ratchet Torque "Measurrench" is the most efficient and durable tool for torque indicating service on the market.

Wrench may be used in two ways, as below:—

**By Sight Reading**—Easily read scale on handle indicates applied tightening pressures from 20 to 200 foot-pounds.

**By Sound Reading**—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

Accuracy does not depend on delicate gears, levers, or dials, but upon rugged sections of high tensile steel. Right hand torque only is measured, but the action reverses for left hand turning.

Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The 36-tooth ratchet wheel, with Williams twin double-tooth oscillating pawl, provides constant engagement with TWO teeth of ratchet-gear in both ON and OFF rotation of nuts.

It makes possible the unusually short operating swing of only 1/30 of a full turn; obstruction hazards are reduced to the minimum. The wrench action is instantly reversed by a mere flip of the shifter, which is flush with the head.

The well balanced drop-forged handle, with specially designed grip, is 19-1/2" long for ample leverage; the head is exceptionally compact and free from protrusions, for easy use in close places.

Operating instructions are supplied with each wrench along with a chart giving the foot-pounds tension to be applied on cylinder heads, connecting rods, main bearings, etc. This data covers all popular cars and trucks as recommended by their manufacturers.

Every part is made of selected alloy and high tensile steel, accurately machined and heat-treated. Chrome-plated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome. Packed in individual metal case.

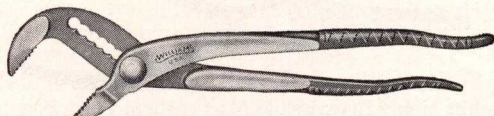


**WILLIAMS' "SUPERPLIERS"**  
(Slip-Joint)

Midget No. 1519, 4-position joint opens 0 to 9/16", with jaws parallel at the most important openings. Efficient for wiring, panel, switchboard, radio, and other delicate work. Chrome-plated over nickel, faces polished.

**MILITARY DESCRIPTION:** MIL-P-15904, TYPE E  
GGG-P-471A, TYPE E, CLASS 2

No.	Length	Standard Package
1519	4 1/2	6

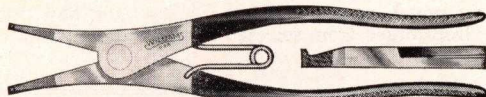
**WILLIAMS' "SUPERPLIERS"**  
(Slip-Joint)

Standard No. 1520 is long and slim; 8-position joint opens 0 to 2". Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

Heavy Duty No. 1521, 7-position slip-joint opens 0 to 2". Heavy duty construction makes this plier particularly useful in plumbing and electrical trades. Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

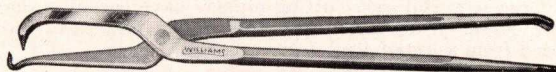
**MILITARY DESCRIPTION:** MIL-P-15904, TYPE E  
GGG-P-471A, TYPE E, CLASS 2

No.	Length	Standard Package
1520	9 1/2	6
1521	10	6

**WILLIAMS' LOCK RING PLIERS**  
For Snap Lock Rings

Pliers are designed for spreading "Horse Shoe" snap lock rings on automotive brakes, transmissions, differentials, pulleys, etc. Finish, gun metal blue handles with polished nose.

No.	Length	Standard Package
1515	8	1

**WILLIAMS' BRAKE PLIERS**  
For inserting and removing springs (internal)

For use only on passenger cars, light and medium trucks excepting Ford "A". Gray satin finish; head faces polished.

No.	Length	Standard Package
1517	13	1

**WILLIAMS' BATTERY PLIERS**

Offset jaws allow ample hand clearance for battery terminal work. Milled teeth assure positive grip. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION:** MIL-P-15904, TYPE D  
GGG-P-471A, TYPE D

No.	Length	Standard Package
67	7	1

**WILLIAMS' COMBINATION SLIP-JOINT PLIERS**

These Combination Pliers, with 2 position slip-joints, are very efficient for general service. Drop-forged from selected steel, with knurled handles; polished and nickel-plated.

**MILITARY DESCRIPTION:** MIL-P-15904, TYPE F, CLASS 1  
GGG-P-471A, TYPE F, CLASS 1

No.	Length	Standard Package
6	6	1
8	8	1
10	10	1

**WILLIAMS' THIN NOSE COMBINATION SLIP-JOINT PLIERS**

These thin nose pliers, with 2 position slip-joints, are very efficient for close-quarters work. Drop-forged from selected steel, knurled handles; polished and nickel-plated.

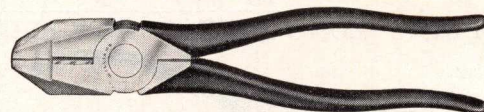
**MILITARY DESCRIPTION:** MIL-P-15904, TYPE F, CLASS 2, STYLE 1  
GGG-P-471A, TYPE F, CLASS 2, STYLE 1

No.	Length	Standard Package
15	5	1
16	6	1

**WILLIAMS' COMBINATION SLIP-JOINT PLIERS WITH SIDE CUTTER**

These sturdy combination pliers have keen side cutters and a flush head rivet on one side. Drop-forged from selected steel, with knurled handles; faces polished.

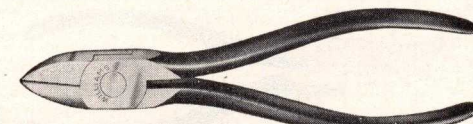
No.	Length	Standard Package
370	7	1

**WILLIAMS' LINEMEN'S SIDE CUTTING PLIERS**

These are heavy duty well-balanced pliers to meet the requirements of linemen and electricians. Surfaces of jaws are deep milled for holding and bending wire. Jaws have powerful cutters. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION:** MIL-P-15904, TYPE N, CLASS 1  
GGG-P-471A, TYPE N, CLASS 1

No.	Length	Standard Package
206	6	1
207	7	1
208	8	1

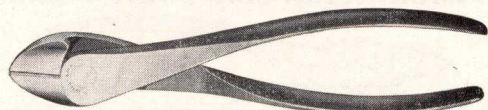
**WILLIAMS' DIAGONAL CUTTING PLIERS**

Mechanics and electricians find many uses for these rugged tools. Cutting edges are made for lasting service. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION:** MIL-P-15904, TYPE H  
GGG-P-471A, TYPE H, CLASS 1, STYLE 2

No.	Length	Standard Package
46	6	1
47	7	1

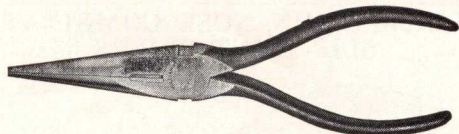


**WILLIAMS' HIGH LEVERAGE  
DIAGONAL CUTTING PLIERS**

Added leverage for easier and more powerful cutting. They are particularly adapted to heavy duty work. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: GGG-P-471A, TYPE H, CLASS 2**

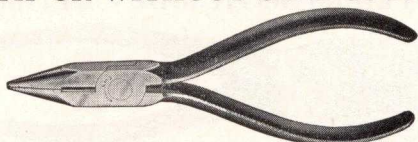
No.	Length	Standard Package
57	7	1

**WILLIAMS' LONG CHAIN NOSE PLIERS  
WITH OR WITHOUT SIDE CUTTER**

Long, thin nose for close quarters. Ideal for ignition and electrical work, etc. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: NOS. 76 AND 77 MIL-P-15904 TYPE P  
GGG-P-471A, TYPE P  
NOS. 86 AND 87, MIL-P-15904, TYPE Q  
GGG-P-471A, TYPE Q**

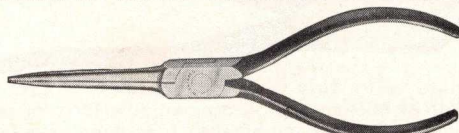
No. with Side Cutter	No. without Side Cutter	Length	Std. Package
76	86	6	1
77	87	7	1

**WILLIAMS' SHORT CHAIN NOSE PLIERS  
WITH OR WITHOUT SIDE CUTTER**

For fine mechanical work such as done in the jewelry, optical and electronics fields. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: NO. 95, MIL-P-15904, TYPE R  
GGG-P-471A, TYPE R  
NO. 105, MIL-P-15904, TYPE S  
GGG-P-471A, TYPE S**

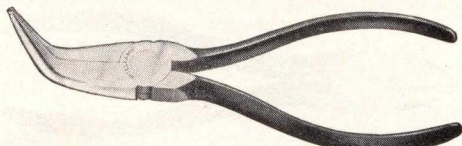
No. with Side Cutter	No. without Side Cutter	Length	Std. Package
95	105	5	1

**WILLIAMS' LONG NEEDLE NOSE PLIERS**

The long slender jaws have strong gripping ability. Jaws will not become distorted in normal use. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: GGG-P-471A, TYPE T, CLASS 2**

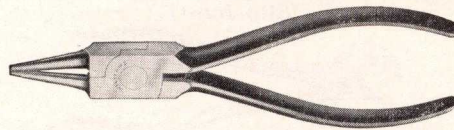
No.	Length	Standard Package
116	6	1

**WILLIAMS' BENT NEEDLE NOSE PLIERS**

The long slender jaws are bent to reach around or under obstructions. Jaws have strong gripping ability. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: MIL-P-15904, TYPE T  
GGG-P-471A, TYPE T, CLASS 1**

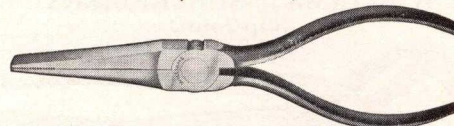
No.	Length	Standard Package
126	6	1

**WILLIAMS' ROUND NOSE PLIERS**

Extensively used for flat or round wire forming. Nose and jaws are amply strong for this type of work. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: MIL-P-15904, TYPE O  
GGG-P-471P, TYPE O**

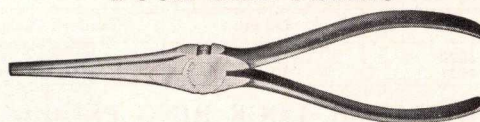
No.	Length	Standard Package
134	4	1
136	6	1

**WILLIAMS' DUCK BILL PLIERS  
(Flat Jaws)**

Used in highly inaccessible places where there is not space for ordinary pliers or fingers. Strong jaws have firm grip. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: MIL-P-15904, TYPE K  
GGG-P-471A, TYPE K, CLASS 1**

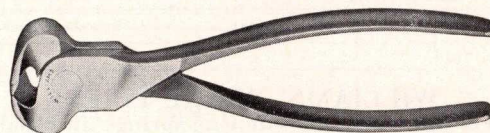
No.	Length	Standard Package
146	6	1

**WILLIAMS' EXTRA LONG  
DUCK BILL PLIERS**

Widely used by textile weavers, telephone maintenance men and punch press operators for inserting and removing work. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: MIL-P-15904, TYPE J  
GGG-P-471A, TYPE J**

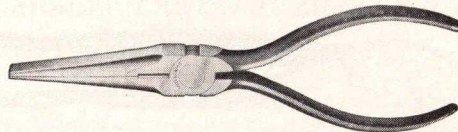
No.	Length	Standard Package
157	7	1

**WILLIAMS' END CUTTING NIPPERS**

These powerful easy cutting nippers have carefully sharpened edges. Wide throat provides ample clearance. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: MIL-P-15904, TYPE B  
GGG-P-471A, TYPE B**

No.	Length	Standard Package
166	6	1
167	7	1

**WILLIAMS' LONG FLAT NOSE PLIERS  
WITH SIDE CUTTER**

Side cutting jaws have long gripping surfaces. In addition to auto radiator repair work these pliers are widely used in textile mills on certain types of knitting machines. Drop-forged from selected steel, faces polished.

**MILITARY DESCRIPTION: GGG-P-471A, TYPE K, CLASS 2**

No.	Length	Standard Package
196	6	1



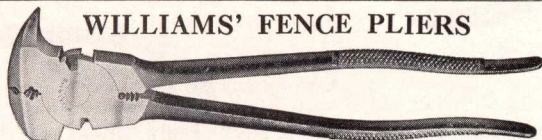
## WILLIAMS' GAS AND BURNER PLIERS



These pliers have larger capacities than ordinary pliers of this type. Drop-forged from selected steel, faces polished.

MILITARY DESCRIPTION: MIL-P-15904, TYPE L, GGG-P-471A, TYPE L

No.	Length	Weight Each, Lbs.
178	8	.81
180	10	1.3

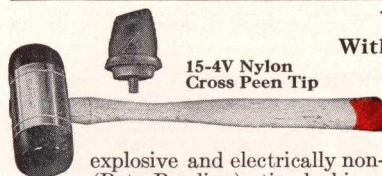


## WILLIAMS' FENCE PLIERS

For installing wire fence on metal or wood posts. Head has hammer on one jaw, starting and pulling point on the other. Has two wire cutters, staple puller and wire splicer in nose, wire stretcher and lug lifter. Drop-forged.

MILITARY DESCRIPTION: GGG-P-471A, TYPE Z

No.	Length	Weight Each, Lbs.
190	10	1.5



15-4V Nylon  
Cross Peen Tip

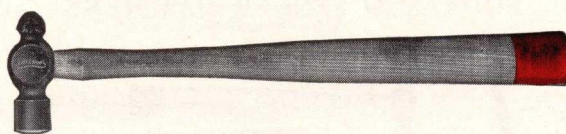
"Nuplax" is highly resistant to common industrial solvents and acids. It is non-explosive and electrically non-conductive. "Nuplok" (Pat. Pending) tip locking device and hickory handles used throughout. Series 100, 150, 153, 154, 200, 204, 250 and 300 have die-cast aluminum alloy heads with bright finish. Series 105, 155, 205, 207, 255 and 305 have die-cast zinc-alloy heads with bright finish.

MILITARY DESCRIPTION: MIL-H-16169, TYPE XI, CLASS E

## SOFT-FACE HAMMERS COMPLETE WITH TIPS

No.	Head Dia. Inches	Head Lgth, In.	Handle Lgth, In.	Weight	Kind of Tip	Std. Pkg.
100-1	1	3-1/2	11-3/8	5 oz.	Soft	6
100-2	1	3-1/2	11-3/8	5 oz.	Medium	6
100-3	1	3-1/2	11-3/8	5 oz.	Tough	6
100-4	1	3-1/2	11-3/8	5 oz.	Nylon	6
100-5	1	3-1/2	11-3/8	5 oz.	Hard	6
105-1	1	3-1/2	11-3/8	8 oz.	Soft	6
105-2	1	3-1/2	11-3/8	8 oz.	Medium	6
105-3	1	3-1/2	11-3/8	8 oz.	Tough	6
105-4	1	3-1/2	11-3/8	8 oz.	Nylon	6
105-5	1	3-1/2	11-3/8	8 oz.	Hard	6
150-1	1-1/2	4-3/8	13	3/4 lb.	Soft	6
150-2	1-1/2	4-3/8	13	3/4 lb.	Medium	6
150-3	1-1/2	4-3/8	13	3/4 lb.	Tough	6
150-4	1-1/2	4-3/8	13	3/4 lb.	Nylon	6
150-5	1-1/2	4-3/8	13	3/4 lb.	Hard	6
153-1	1-1/2	7	13	1-1/8 lb.	Soft	6
153-2	1-1/2	7	13	1-1/8 lb.	Medium	6
153-3	1-1/2	7	13	1-1/8 lb.	Tough	6
153-4	1-1/2	7	13	1-1/8 lb.	Nylon	6
153-5	1-1/2	7	13	1-1/8 lb.	Hard	6
153-44V	1-1/2	7	13	1-1/8 lb.	†Nylon	6
*154-1	1-1/2	6-1/2	13	1-1/8 lb.	Soft	6
*154-2	1-1/2	6-1/2	13	1-1/8 lb.	Medium	6
*154-3	1-1/2	6-1/2	13	1-1/8 lb.	Tough	6
*154-4	1-1/2	6-1/2	13	1-1/8 lb.	Nylon	6
*154-5	1-1/2	6-1/2	13	1-1/8 lb.	Hard	6
155-1	1-1/2	4-3/8	13	1-1/4 lb.	Soft	6
155-2	1-1/2	4-3/8	13	1-1/4 lb.	Medium	6
155-3	1-1/2	4-3/8	13	1-1/4 lb.	Tough	6
155-4	1-1/2	4-3/8	13	1-1/4 lb.	Nylon	6
155-5	1-1/2	4-3/8	13	1-1/4 lb.	Hard	6
200-1	2	5	13	1-1/2 lb.	Soft	6
200-2	2	5	13	1-1/2 lb.	Medium	6
200-3	2	5	13	1-1/2 lb.	Tough	6
200-4	2	5	13	1-1/2 lb.	Nylon	6
200-5	2	5	13	1-1/2 lb.	Hard	6
*204-1	2	7-3/4	15	2-1/4 lb.	Soft	6
*204-2	2	7-3/4	15	2-1/4 lb.	Medium	6
*204-3	2	7-3/4	15	2-1/4 lb.	Tough	6
*204-4	2	7-3/4	15	2-1/4 lb.	Nylon	6
*204-5	2	7-3/4	15	2-1/4 lb.	Hard	6
205-1	2	5	13	2 lb.	Soft	6
205-2	2	5	13	2 lb.	Medium	6
205-3	2	5	13	2 lb.	Tough	6
205-4	2	5	13	2 lb.	Nylon	6
205-5	2	5	13	2 lb.	Hard	6
207-1	2	6-3/8	15	3 lb.	Soft	4
207-2	2	6-3/8	15	3 lb.	Medium	4
207-3	2	6-3/8	15	3 lb.	Tough	4
207-4	2	6-3/8	15	3 lb.	Nylon	4

## WILLIAMS' BALL PEIN HAMMERS



Williams Ball Pein Hammers are exceptionally well balanced. They are drop-forged from specially selected steel and carefully heat-treated for uniform, dependable strength and hardness. They are built to withstand severe usage.

Handles are made from second growth white hickory and clear lacquered. Each handle is carefully fitted and permanently wedged into the head.

MILITARY DESCRIPTION: MIL-H-16169, TYPE XIII, CLASS A  
GGG-H-86, TYPE L, CLASS I

No.	Length	Weight	Standard Pkg.
7-0	9 3/4	2 oz.	6
5-0	9 3/4	1/4 lb.	6
3-0	11 1/2	1/2 lb.	6
2-0	13 1/2	3/4 lb.	6
0	14	1 lb.	4
2	14 1/2	1-1/2 lbs.	4
4	15 1/2	2 lbs.	4
6	16	2-1/2 lbs.	4

WILLIAMS' SOFT-FACE HAMMERS  
With "Nuplax" and Nylon Interchangeable Tips

Series 307 and 308 have steel heads finished in rust proof black.

Nylon Tipped Cross Peen Hammer No. 153-44V is specially designed for peening work in aircraft and automotive assembly and sheet metal work. The long, light-weight head has one wedge-pointed Cross Peen Nylon Tip, No. 15-4V, and one regular round Nylon Tip, No. 15-4. Nylon Cross Peen Tip No. 15-4V will also fit in Williams' Soft-Face Hammers, series 150, 154 and 155. "Impax" shot-loaded heads, Series 154 and 204, offer 30% more driving power with less worker fatigue, fewer blows, less rebound and less shock.

## SOFT-FACE HAMMERS COMPLETE WITH TIPS

No.	Head Dia. Inches	Head Lgth, In.	Handle Lgth, In.	Weight	Kind of Tip	Std. Pkg.
207-5	2	6-3/8	15	3 lb.	Hard	4
250-1	2-1/2	6-1/4	15	2 lb.	Soft	4
250-2	2-1/2	6-1/4	15	2 lb.	Medium	4
250-3	2-1/2	6-1/4	15	2 lb.	Tough	4
250-4	2-1/2	6-1/4	15	2 lb.	Nylon	4
250-5	2-1/2	6-1/4	15	2 lb.	Hard	4
255-1	2-1/2	6-1/4	13	4 lb.	Soft	4
255-2	2-1/2	6-1/4	13	4 lb.	Medium	4
255-3	2-1/2	6-1/4	13	4 lb.	Tough	4
255-4	2-1/2	6-1/4	13	4 lb.	Nylon	4
255-5	2-1/2	6-1/4	13	4 lb.	Hard	4
300-1	3	7	14	3-1/2 lb.	Soft	2
300-2	3	7	14	3-1/2 lb.	Medium	2
300-3	3	7	14	3-1/2 lb.	Tough	2
300-4	3	7	14	3-1/2 lb.	Nylon	2
300-5	3	7	14	3-1/2 lb.	Hard	2
305-1	3	7	14	6 lb.	Soft	2
305-2	3	7	14	6 lb.	Medium	2
305-3	3	7	14	6 lb.	Tough	2
305-4	3	7	14	6 lb.	Nylon	2
305-5	3	7	14	6 lb.	Hard	2
307-2	3	7-7/8	28	9 lb.	Medium	1
307-3	3	7-7/8	28	9 lb.	Tough	1
307-4	3	7-7/8	28	9 lb.	Nylon	1
307-5	3	7-7/8	28	9 lb.	Hard	1
308-2	3	9	36	12 lb.	Medium	1
308-3	3	9	36	12 lb.	Tough	1
308-4	3	9	36	12 lb.	Nylon	1
308-5	3	9	36	12 lb.	Hard	1

\* "Impax" shot-loaded heads.

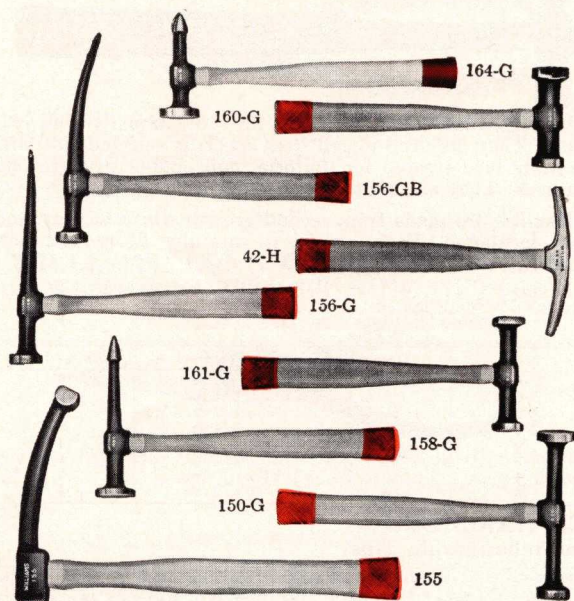
† Cross Peen Tip.

† Hammer furnished with one regular round and one Cross Peen Tip.

## EXTRA "NUPLAFLEX" AND NYLON TIPS

No.	Head Diam. Inches	Kind of Tip	Wgt. Each, Lbs.	No.	Head Diam. Inches	Kind of Tip	Wgt. Each, Lbs.
10-1	1	Soft	.05	20-3	2	Tough	.27
10-2	1	Medium	.05	20-4	2	Hard	.27
10-3	1	Tough	.05	20-5	2	Nylon	.27
10-4	1	Nylon	.05	25-1	2-1/2	Soft	.44
10-5	1	Hard	.05	25-2	2-1/2	Medium	.44
15-1	1-1/2	Soft	.14	25-3	2-1/2	Tough	.44
15-2	1-1/2	Medium	.14	25-4	2-1/2	Nylon	.44
15-3	1-1/2	Tough	.14	25-5	2-1/2	Hard	.44
15-4	1-1/2	Nylon	.14	30-1	3	Soft	.66
15-5	1-1/2	Hard	.14	30-2	3	Medium	.66
15-4V	1-1/2	†Nylon	.14	30-3	3	Tough	.66
20-1	2	Soft	.27	30-4	3	Nylon	.66
20-2	2	Medium	.27	30-5	3	Hard	.66



WILLIAMS'  
BODY AND FENDER HAMMERS

Drop-forged from selected steel and heat-treated. Fitted with selected hickory handles finished with clear lacquer.

**No. 150-G DINGING HAMMER**—This rugged well balanced hammer is recommended for general bumping and dinging where heavier blows are required. Long head permits dinging over obstructions.

**No. 155 FENDER BUMPER**—A heavy hammer for use in places inaccessible by hand with an ordinary dolly. Designed to clear obstructions when bumping out dents from the inside.

**No. 156-G FINISHING HAMMER**—Pointed end is used for driving up small dents in low crown and flat panels. The dinging head has a high crown face. Extra long reach permits working over braces and inner construction inside bodies.

**No. 156-GB CURVED FINISHING HAMMER**—Pointed end is bent to arc of a normal swing, otherwise same as No. 156-G. Curved pointed end allows user to reach in such places as the edge of a roof rail panel and in behind bracing.

**No. 158-G FINISHING HAMMER**—While designed for general work it is particularly useful for driving up small low spots when filing. Pick end is well balanced with low crown dinging head.

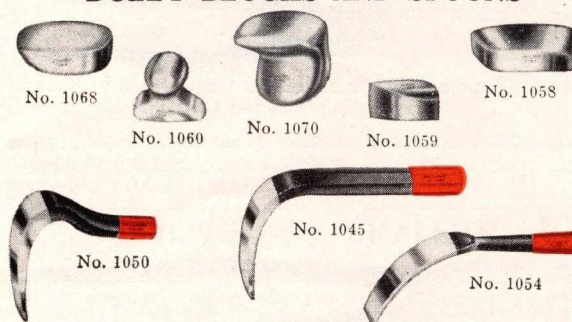
**No. 160-G BUMPING HAMMER**—A heavy duty hammer for straightening braces, reinforcements, floor panels, etc. Well adapted to heavy duty bumping work on body and fender straightening.

**No. 161-G DINGING HAMMER**—A light-weight well balanced hammer for light and medium work. Square face is low crowned and round face is high crowned.

**No. 164-G UTILITY HAMMER**—Short pick has bullet shaped end for driving up small dents. It is also useful for driving up dents in fenders without removing the wheel and for general dinging on thin gauge metal.

**No. 42-H MAGNETIC TRIMMER'S HAMMER**—Full polished head is drop-forged from steel selected to retain magnetism. Arc of the head is designed for utmost efficiency in trimming and upholstery work.

No.	FACES		POINTED ENDS		Length Head Overall	Handle Length	Wgt. Each, Lbs.
	Round	Square	Tip Radius	Length			
150-G	1 1/4				6	11 1/2	.81
155					8 1/2	15	2.
156-G	1 1/4		1/32	5 1/2	8	11 1/2	.56
156-GB	1 1/4				8	11 1/2	.56
158-G	1 9/16		3/32	3 3/4	6 3/4	11 1/2	.56
160-G	1 1/4	1 3/16			4	11 1/2	.81
161-G	1 1/4	1 1/8			4	11 1/2	.56
164-G	1 9/16		5/32	2	4	11 1/2	.44
42-H					5 7/8	11	.44

WILLIAMS'  
DOLLY BLOCKS AND SPOONS

Drop-forged from selected steel. Dolly Blocks are full polished. Bodies of Spoons are finished in black, blade ends are full polished.

MILITARY DESCRIPTION: NO. 1059, GGG-B-00481, TYPE III  
NO. 1060, GGG-B-00481, TYPE I, STYLE B

**No. 1058 TOE DOLLY**—Extremely versatile due to its thinness and length. The large flat surface is useful in dinging flat panels and lower hood quarters. Fits many odd curves.

**No. 1059 HEEL DOLLY**—This dolly is designed for use in corners and wide radii.

**No. 1060 GENERAL PURPOSE DOLLY**—Its unlimited use makes it one of the most popular of all. Its weight and balance assure comfortable seating in the hand. Wide adaptability is achieved through the several differently crowned working surfaces and the two flanging and beading lips.

**No. 1068 LOW CROWN DOLLY**—Made for dinging on low crown panels where other dollies would stretch the metal. Also can be used for flange work. The 90° angle between the low crown face and the sides permits dinging in the furthest recesses of a flanged edge.

**No. 1070 HEAVY DUTY DOLLY**—For general heavy duty work. This dolly is recommended for use on heavy gauge fenders and panels. It is particularly adapted for roughing work and for use with air hammers.

**No. 1045 LONG TURRET TOP SPOON**—This spoon is used for prying and driving or as an offset dolly for dinging where it can be inserted between outer panel and inner construction. End at blade has a medium caulking face.

**No. 1050 COMBINATION SPOON**—Designed for general use. Its long high crown working surface is ideal for working behind reinforcements on high crown panels such as between fender brackets and fender where it is impossible to use a dolly block.

**No. 1054 LONG CURVED SPOON**—This spoon has a long, thin, curved blade which is handy for prying up dents encountered behind hinge anchors in doors and body pillars, reinforcements in hood tops, radiator shells, header panels, etc.

## DOLLY BLOCKS

No.	Size	Weight Each, Lbs.
1058	4-3/4 x 2-1/4 x 1-1/16	2.5
1059	3-1/8 x 2-3/8 x 1-7/16	2.5
1060	2-7/8 x 2-3/8 x 2-1/4	2.8
1068	2-3/4 x 1-5/8 x 4	2.8
1070	3-5/8 x 3-1/4 x 2-1/2	4.3

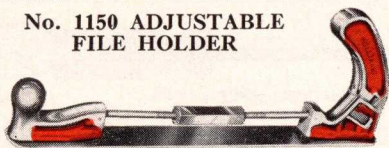
## SPOONS

No.	Length Overall	Face	Octagon Handle	Weight Ea., Lbs.
1045	10	1-7/8 x 5-1/4 x 3/16	1 1/8	2.6
1050	4 3/4	1-3/4 x 5-1/2	1	2.8
1054	10 1/2	2 x 7		1.5



## WILLIAMS' FILES AND FILE HOLDERS

### No. 1150 ADJUSTABLE FILE HOLDER



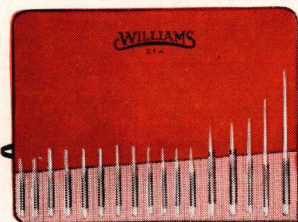
The handle of Williams Adjustable File Holder may be adjusted to either side or completely reversed and again adjusted to either side, enabling the operator to work close to obstructions without risk of injury to the hand. For either right or left hand use the handle is entirely out of the way of the work. Although light in weight, Holder is extremely rigid and comfortably balanced. File may be flexed either way to the maximum point of safety against breakage. Before flexing, the bolt which attaches blade to the rear of the holder should be loosened. Packed 6 in cardboard box.

### 14" STANDARD FLEXIBLE MILLED CURVED-TOOTH FILE



This type of file is universally used in auto body repair work. Curved teeth are milled on both sides. These files are made from special alloy steel, precision milled and are self clearing. They leave a smooth finish. Designed for use with Williams File Holder No. 1150. Packed 6 in cardboard box.

### PUNCH SET No. PS-17 In Leatherette Roll In Cardboard Box



This complete punch set contains one each Pin Punches P-3, P-4, P-5, P-6, P-8 and P-10, Solid Punches P-13, P-14, P-15, P-16 and P-17, Long Taper Punches P-25, P-26 and P-28, Prick Punch P-30, Center Punches P-40 and P-42.

### CHISEL SET No. CS-9 In Leatherette Roll In Cardboard Box

This compact set contains a complete range of Cold Chisels consisting of one each C-8, C-10, C-12, C-16, C-20, C-24, C-28, C-32 and C-36.



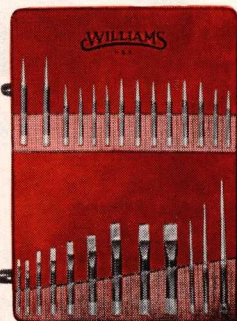
### CHISEL SET No. CS-8 In Leatherette Roll In Cardboard Box

This handy chisel set contains one each Cape Chisels C-40, C-42, C-44 and C-46, Diamond Point Chisels C-60 and C-62, Round Nose Chisels C-72 and C-74.



### PUNCH and CHISEL SET No. PC-26 In Leatherette Roll In Cardboard Box

This combination set contains a complete assortment of Williams Punches and Chisels. It combines the contents of Punch Set No. PS-17 and Chisel Set No. CS-9 into one handy roll.

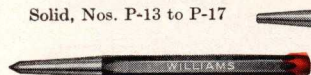


## WILLIAMS' PUNCHES AND CHISELS



Pin, Nos. P-3 to P-10

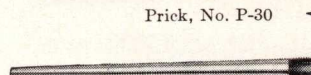
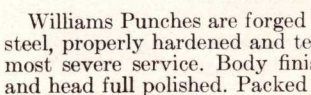
Solid, Nos. P-13 to P-17



Center, No. P-40 &amp; P-42



Prick, No. P-30

Long Taper,  
Nos.  
P-25 to P-28

Williams Punches are forged from high grade octagon alloy steel, properly hardened and tempered to stand up under the most severe service. Body finished in black, with the taper and head full polished. Packed 6 in cardboard box.

### MILITARY DESCRIPTION: GGG-P-831

No.	Point Diam.	Stock Size	Length
<b>PIN PUNCHES</b>			
P-3	3/32	3/8	6
P-4	1/8	3/8	6
P-5	5/32	3/8	6
P-6	3/16	1/2	6
P-8	1/4	5/8	8
P-10	5/16	5/8	8
<b>SOLID PUNCHES</b>			
P-13	3/32	1/2	6
P-14	1/8	1/2	6
P-15	5/32	1/2	6
P-16	3/16	1/2	6
P-17	1/4	1/2	6

No.	Point Diam.	Stock Size	Length
<b>LONG TAPER PUNCHES</b>			
P-25	5/32	3/8	9
P-26	3/16	1/2	10
P-28	1/4	5/8	12
<b>PRICK PUNCHES</b>			
P-30		3/8	5
<b>CENTER PUNCHES</b>			
P-40		3/8	5
P-42		1/2	6



Cold, Nos. C-8 to C-36



Extra Long Cold, Nos. C-120 to C-132

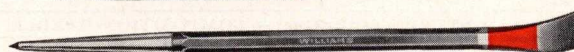


Cape, Nos. C-40 to C-46

Round Nose, Nos. C-72 &amp; C-74



Diamond Point, Nos. C-60 &amp; C-62



Pinch Bars, Nos. C-80 &amp; C-82



Rivet Buster, No. C-422

### CHISELS AND PINCH BARS

Williams Chisels and Pinch Bars of high grade octagon alloy steel, are carefully forged, hardened and tempered. Body finished in black with full polished ends. Packed 6 in cardboard box, excepting No. C-36, C-80, C-82—3 in a box.

### RIVET BUSTER

Designed especially for cutting off hardened rivet heads. A great time saver when used for this purpose, instead of the ordinary chisel. Packed 3 in a box.

### MILITARY DESCRIPTION: MIL-C-1244. GGG-C-313

No.	Width of Cut	Stock Size	Length
<b>COLD or FLAT CHISELS</b>			
C-8	1/4	1/4	4 3/4
C-10	5/16	5/16	5
C-12	3/8	3/8	5 1/2
C-16	1/2	1/2	6
C-20	5/8	5/8	6 1/2
C-24	3/4	3/4	7
C-28	7/8	7/8	8
C-32	1	7/8	8
C-36	1 1/8	1	8
<b>EXTRA LONG COLD CHISELS</b>			
C-120	5/8	1/2	12
C-124	3/4	5/8	12
C-132	1	3/4	12

No.	Width of Cut	Stock Size	Length
<b>DIAMOND POINT CHISELS</b>			
C-60	1/4	3/8	5 1/4
C-62	3/8	5/8	6
<b>ROUND NOSE CHISELS</b>			
C-72	1/4	1/2	6 1/4
C-74	3/8	5/8	7
<b>RIVET BUSTER</b>			
C-422	11/16	3/4	12

No.	Width of Cut	Stock Size	Length
<b>CAPE CHISELS</b>			
C-40	3/16	3/8	6
C-42	1/4	1/2	6 1/4
C-44	5/16	1/2	6 1/4
C-46	3/8	5/8	7

No.	Width of Cut	Stock Size	Length
<b>PINCH BARS</b>			
C-80		1/2	14
C-82		5/8	16



## WILLIAMS' SCREW DRIVERS



Regular Nos. 4 to 12



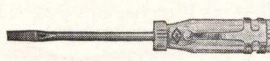
Regular Nos. 24 to 32



Electricians' Nos. 43 to 50



Regular Stubby No. 62



Pocket No. 52

Williams Regular, Electricians', Pocket and Stubby (adjusting) Screw Drivers are all fitted with handles of a tough transparent composition, an insulator of electricity. Fluted for sure, comfortable grip. The blades, hardened and tempered, are solidly anchored in the handles.

Regular patterns are available with either square or round blades. Electricians' have round blades and the Stubby a square blade. The Pocket has round blade and is fitted with pocket clip which is secured in a grooved recess, as illustrated.

MILITARY DESCRIPTION: MIL-S-15713  
GGG-S-121C

## REGULAR — SQUARE BLADE — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Std. Pkg.
4	4	1/4	5/16	6
6	6	5/16	5/16	6
6B	6	3/8	3/8	6
8	8	3/8	3/8	6
12	12	3/8	3/8	6

## REGULAR — ROUND BLADE — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Std. Pkg.
24	4	1/4	1/4	6
26	6	5/16	5/16	6
28	8	3/8	3/8	6
32	12	3/8	3/8	6

## ELECTRICIANS' — ROUND BLADE — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Std. Pkg.
43	3	3/16	3/16	6
46	6	3/16	3/16	6
50	10	3/16	3/16	6

## POCKET (with Clip) — ROUND BLADE — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Std. Pkg.
52	2 1/4	1/8	1/8	12

## REGULAR STUBBY (Adjusting) — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Std. Pkg.
62	1 1/2	1/4	5/16	6

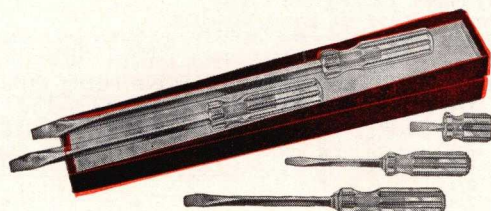
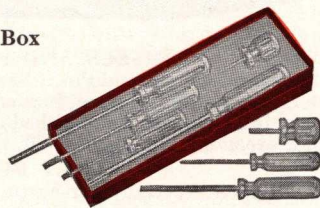
## WILLIAMS' SCREW DRIVER SETS

## SET No. CH-8

Complete in Cardboard Box

## CONTENTS

1 each Nos. CH-33, CH-43, CH-51, CH-54, CH-61, CH-64, CH-86 and CH-106 Clutch Head Screw Drivers with composition handles.

SET No. 1-D  
Complete  
in Cardboard Box

## CONTENTS

1 each Nos. 4, 6, 8, 12 and 62 Regular Screw Drivers with square blades and composition handles.

## SET No. 2-D

Complete  
in Cardboard Box

## CONTENTS

1 each Nos. 24, 26, 28 and 32 Regular Screw Drivers with round blades and composition handles.

## WILLIAMS' SCREW DRIVERS



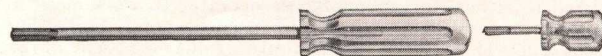
Phillips Nos. TP-1 to TP-4

No. TP-62



Phillips Nos. WP-1 to WP-4

No. WP-62



Clutch Head Nos. CH-33 to CH-106

Nos. CH-51 &amp; 61

Williams Phillips Screw Drivers fit the entire range of Phillips recessed-head screws. These, and the Clutch Head, with special tip design for servicing Clutch Head Screws, have round Selected Alloy Steel blades, hardened and tempered. They are securely anchored in handles made of wood or a tough transparent composition which is an insulator of electricity. Fluted for sure, comfortable grip.

MILITARY DESCRIPTION: MIL-S-15713  
GGG-S-121C

## PHILLIPS — COMPOSITION OR WOOD HANDLE

No. With Composition Handles	No. With Wood Handles	Fits Screws No.	Blade Length	Stock Size	Standard Package
TP-1	WP-1	4 and Smaller	3	9/64	6
TP-2	WP-2	5 to 9 incl.	4	1/4	6
TP-3	WP-3	10 to 16 incl.	6	5/16	6
TP-4	WP-4	18 and larger	8	3/8	6

PHILLIPS STUBBY (Adjusting)  
COMPOSITION OR WOOD HANDLES

TP-62	WP-62	5 to 9 incl.	1 1/2	1/4	6
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## CLUTCH HEAD — REGULAR — COMPOSITION HANDLE

No.	Fits Clutch Head Screw No.	Bit Diam.	Blade Diam.	Blade Length	Extreme Length	Standard Package
CH-33	2 & 3	3/32	1/8	3	6	12
CH-43	4	1/8	1/8	3	6	12
CH-54	6 & 8	5/32	3/16	4 1/4	7 3/4	12
CH-64	10	3/16	3/16	4 1/4	7 3/4	12
CH-86	12, 14 & 1/4	1/4	1/4	6	9 5/8	12
CH-106	5/16 & 3/8	5/16	5/16	6	10	12

## CLUTCH HEAD — STUBBY — COMPOSITION HANDLE

CH-51	6 & 8	5/32	3/16	1 1/2	3 1/4	12
CH-61	10	3/16	3/16	1 1/2	3 1/4	12

## WILLIAMS' SCREW DRIVER SETS

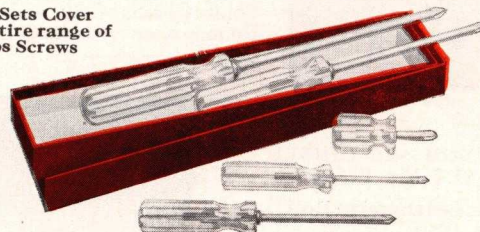
## SET No. 3-D

Complete in Cardboard Box

## CONTENTS

1 each Nos. 43, 46, 50 and 52 Williams Electricians' Screw Drivers with composition handles.

These Sets Cover the entire range of Phillips Screws

SET No. TP-5  
Complete  
in Cardboard Box

## CONTENTS

1 each Nos. TP-1, TP-2, TP-3, TP-4 and TP-62 Phillips Screw Drivers with composition handles.

SET No. WP-5  
Complete  
in Cardboard Box

## CONTENTS

1 each Nos. WP-1, WP-2, WP-3, WP-4 and WP-62 Phillips Screw Drivers with hard wood handles.



## WILLIAMS' POWER AUGER BITS



Style 100

Williams Power Auger Bits can be operated at high speeds in all electric drills having 1/4-inch or larger chuck capacity. Hexagon shanks prevent bits from slipping in the chuck. Cutting edges are keen and uniformly hardened for accurate performance in boring hard and soft woods, including plywoods, regardless of knots and grain.

Wood workers, patternmakers, carpenters, farmers, house owners, electricians, plumbers, maintenance men, boat builders, hobbyists, cabinet shops, contractors, etc., all use Williams Power Auger Bits.

Size	Extreme Length	Standard Package
3/8"	5 1/4	1
1/2"	5 1/4	1
5/8"	5 1/4	1
3/4"	5 1/4	1
7/8"	5 1/4	1
1"	5 1/4	1

## WILLIAMS' POWER AUGER BIT SET



SET No. 106

6 Pieces — Packed in Clear Plastic Tube

### CONTENTS

1 each 3/8, 1/2, 5/8, 3/4, 7/8 and 1" Williams Style 100 Power Auger Bits.

## WILLIAMS MASONRY DRILLS

Carbide-Tipped—Fast Cut



Style 300

Williams Carbide Tipped Masonry Drills easily and quietly penetrate concrete, cement, brick, slate, marble, stone and all types of masonry materials. They produce clean, sharp-edged, accurate holes. For best results use slowest speed available and maintain heavy pressure. For rotary drilling only in electric drills, drill presses, rotary impact tools and hand braces. Tipped diameters are oversize to provide for clearance in installing anchors, expansion shields and toggle bolts.

Individually packed in cardboard tubes, sharpening instructions included.

Nominal Diameter	Actual Diameter	Extreme Length	Shank Diameter	Shank Length	Standard Package
1/8	.130	2 1/2	1/8	.....	1
3/16	.198	3	3/16	.....	1
1/4	.260	4	1/4	.....	1
5/16	.328	4	1/4	1 1/2	1
3/8	.390	4	1/4	1 1/2	1
7/16	.458	6	1/4	1 5/8	1
1/2	.525	6	3/8	1 5/8	1
9/16	.587	6	3/8	1 5/8	1
5/8	.650	6	1/2	1 5/8	1
11/16	.713	6	1/2	1 5/8	1
3/4	.775	6	1/2	1 5/8	1
7/8	.905	6	1/2	1 5/8	1
1	1.030	6	1/2	1 5/8	1
1 1/8	1.160	6	1/2	1 5/8	1
1 1/4	1.285	10	1/2	1 5/8	1
1 1/2	1.535	10	1/2	1 5/8	1

## WILLIAMS' SCREW EXTRACTORS

For Quick Removal of Screws, Studs, and Pipe Fittings



Style 200

Quick, easy removal of broken screws, bolts, studs or other threaded forms without injury to the tapped threads can best be accomplished with Williams Screw Extractors. A hole is first drilled into the broken stem and the correct size Williams Extractor is then inserted. By twisting to the left, the extractor will grip firmly into the wall of the drilled hole. Continued twisting action will back out the imbedded stem with minimum effort.

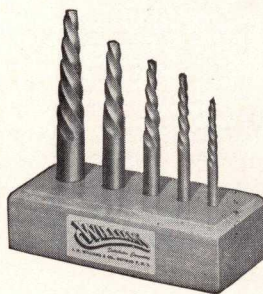
Williams Screw Extractors are used in all types of automotive repair shops, garages, service stations, car and truck dealers, etc.

Individually packed in cardboard envelopes.

\* Sizes given in these columns are recommended for normal conditions. Unusual conditions will require the use of other sizes of drills and extractors depending on the length of the broken section and its depth in the hole. In general, use the largest possible screw extractor.

Extractor No.	* For Use on Screw Sizes	For Use on Pipe Sizes	Diam. Small End	Diam. Large End	Lgth. of Flute	Extreme Lgth.	*Size Drill to Use	Std. Pkg.
1	Nos. 8 & 10	.....	.054	5/32	13/16	2	5/64	1
2	No. 12 & 1/4	.....	.080	3/16	7/8	2 1/2	7/64	1
3	5/16	.....	1/8	1/4	1	2 3/4	5/32	1
4	3/8	1/8	3/16	11/32	1 1/4	3	1/4	1
5	7/16, 1/2, 9/16	1/8 & 1/4	15/64	7/16	1 5/8	3 3/8	17/64	1
6	5/8	3/8	3/8	19/32	1 3/4	3 3/4	13/32	1
7	3/4, 7/8, 1	1/2	1/2	3/4	2	4 1/8	17/32	1
8	1 1/8, 1 1/4	3/4	3/4	1	2	4 3/8	13/16	1
9	1 1/2	1	1	1 9/32	2 1/4	4 5/8	1 1/16	1

## WILLIAMS' SCREW EXTRACTOR SETS



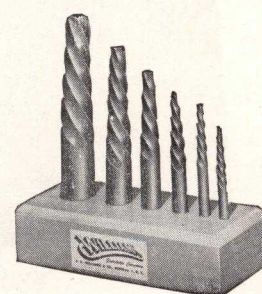
SET No. 205

5 Pieces Complete with Maple Block Stand  
Packed in Cardboard Box

### CONTENTS

1 each Williams Screw Extractors Nos. 1, 2, 3, 4 & 5.

Extractors in this set will remove broken screws 9/16" and smaller.



SET No. 206

6 Pieces Complete with Maple Block Stand  
Packed in Cardboard Box

### CONTENTS

1 each Williams Screw Extractors Nos. 1, 2, 3, 4, 5, 6.

Extractors in this set will remove broken screws 5/8" and smaller.



## WILLIAMS' FEELER GAUGES

.0015

Nos. G-0015 to G-040

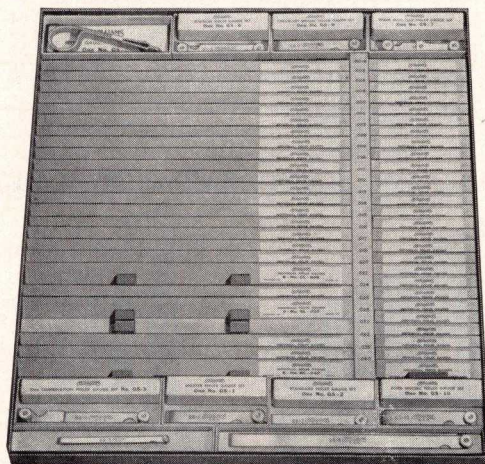
.008

Nos. GL-0015 to GL-040

All blades are made from selected Swedish Steel properly tempered. Each blade is electro-etched with its decimal size and is treated with rust resistant oil.

Blade Thickness	3-1/2" Lengths		12" Lengths	
	Number	Standard Package	Number	Standard Package
.0015	G-0015	6	GL-0015	6
.002	G-002	6	GL-002	6
.003	G-003	6	GL-003	6
.004	G-004	6	GL-004	6
.005	G-005	6	GL-005	6
.006	G-006	6	GL-006	6
.007	G-007	6	GL-007	6
.008	G-008	6	GL-008	6
.009	G-009	6	GL-009	6
.010	G-010	6	GL-010	6
.011	G-011	6	GL-011	6
.012	G-012	6	GL-012	6
.013	G-013	6	GL-013	6
.014	G-014	6	GL-014	6
.015	G-015	6	GL-015	6
.016	G-016	6	GL-016	6
.017	G-017	6	GL-017	6
.018	G-018	6	GL-018	6
.020	G-020	6	GL-020	6
.022	G-022	6	GL-022	6
.024	G-024	6	GL-024	6
.025	G-025	6	GL-025	6
.028	G-028	6	GL-028	6
.030	G-030	6	GL-030	6
.032	G-032	6	GL-032	6
.035	G-035	6	GL-035	6
.040	G-040	6	GL-040	6

## WILLIAMS' FEELER GAUGE DISPENSER



No. GD-326

Contains 312 Blades and 20 Sets

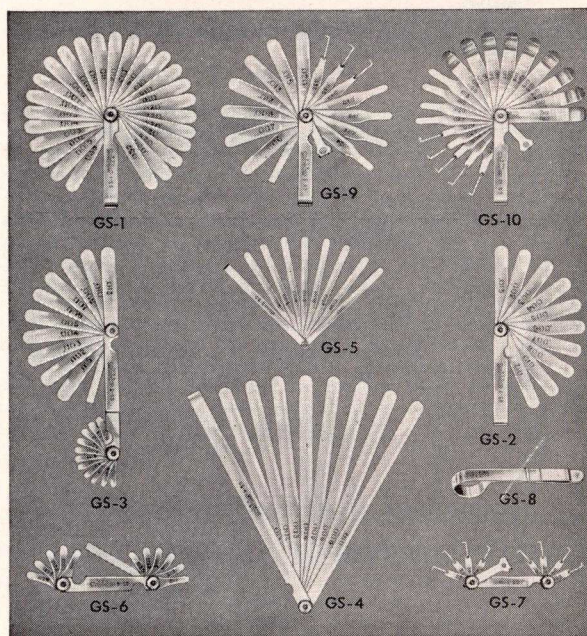
Here is the most effective means yet devised for counter display selling of Feeler Gauges. This dispenser is carefully constructed of wood and heavy cardboard and is built to last. Built-in easel construction on bottom allows display to be tilted forward.

Blade stock in 3-1/2 and 12" lengths fit into slots which are properly marked with decimal thickness. In this way blade selection is made quickly and easily.

## CONTENTS

2 each All Sets Nos. GS-1 to GS-10 inclusive.  
6 each All 3-1/2" Blades Nos. G-0015 to G-040 inclusive.  
6 each All 12" Blades Nos. GL-0015 to GL-040 inclusive.

## WILLIAMS' FEELER GAUGE SETS



Sets have knurled lock-nuts which allows the user to select the required blade size and then lock it into position.

## MILITARY DESCRIPTION:

SETS GS-1 AND GS-2, GGG-G-21, TYPE X, CLASS I, STYLE A, B, C  
SET GS-7, GGG-G-21, TYPE XI, CLASS I

**SET No. GS-1 Master Feeler Gauge.** 25 Blades 3-1/2" long in the following thicknesses—.0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .018, .020, .022, .024, .025, .028, .030, .032 and .035.

**SET No. GS-2 Standard Feeler Gauge.** 10 Blades 3-1/2" long in the following thicknesses—.002, .003, .004, .005, .006, .007, .008, .010, .012 and .015.

**SET No. GS-3 Combination Feeler Gauge.** 10 Blades 3-1/2" long in the following thicknesses—.002, .003, .004, .005, .006, .007, .008, .010, .013, .015; 11 Fingers in the following thicknesses—.012, .013, .014, .015, .018, .020, .022, .024, .025, .028, .032 and file.

**SET No. GS-4 Piston Feeler Gauge.** 8 Blades 9" long in the following thicknesses—.002, .003, .004, .005, .006, .008, .010 and .015.

**SET No. GS-5 Brake Feeler Gauge.** 9 Blades 4" long in the following thicknesses—.002, .004, .005, .006, .007, .008, .010, .012 and .015.

**SET No. GS-6 Ignition Feeler Gauge.** 11 Fingers 1-5/8" long in the following thicknesses—.012, .013, .014, .015, .018, .020, .022, .025, .028, .032, .035 and one file.

**SET No. GS-7 Spark Plug Gap Feeler Gauge.** 8 90° Wires—.022, .025, .028, .030, .032, .035, .038, .040 and electrode bender.

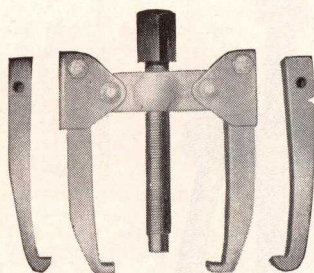
**No. GS-8 Feeler Gauge Stock Holder.** 4-3/4" long. Holds one 12" Blade, any thickness.

**SET No. GS-9 Special Chevrolet Feeler Gauge.** 8 Blades 3-1/2" long in the following thicknesses—.006, .007, .008, .010, .012, .013, .015, .020; 4 Fingers 3-1/2" long in the following thicknesses—.018, .020, .022, .024; 3 90° Wires .032, .035, .040; one file and one electrode bender.

**SET No. GS-10 Special Ford Feeler Gauge.** 9 Step Blades 3-1/2" long in the following thicknesses—.010-.012, .011-.013, .012-.014, .013-.015, .014-.016, .015-.017, .016-.018, .017-.019, .018-.020; 4 Fingers 3-1/2" long in the following thicknesses—.013, .015, .020, .025; 2 Straight Wires—.017 and .030; 3 90° Wires—.025, .028, .030 and one electrode bender.



## WILLIAMS' 2-JAW "GRIP-TITE" PULLERS



Nos. 230 and 232

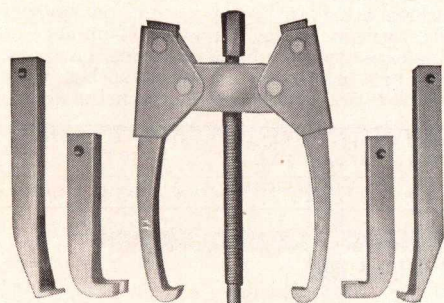
These pullers are built with the improved "Grip-Tite" Clip. This latest modern improvement in pullers actually increases the grip of the jaws as the forcing screw is tightened, insuring a firm, straight, even pull.

Williams' Pullers, designed with ease of operation and long life in mind, incorporate the latest in screw thread design—the "UNIFIED" form developed by the American Standards Association for maximum strength, long life and interchangeability.

"Grip-Tites" wide range of sizes and jaw styles provide maximum versatility. They are well suited to the many different pulling jobs found in modern repair and maintenance work.

Made from finest alloy steel, each puller is properly forged and heat-treated for utmost strength and durability.

Used and recommended by mechanics and maintenance men in the automotive, truck, tractor, farm equipment and industrial fields.



Nos. 260 and 263

### No. 230

Ideal for removing small bearings, generator gears, etc. This puller is equipped with one pair of wide jaws.

### No. 232

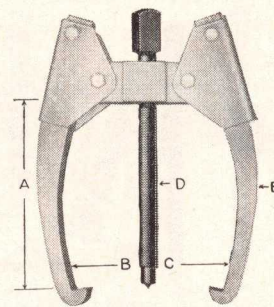
Equipped with two pair of jaws—one wide, thin lip jaws; one narrow, thick lip jaws.

### No. 260

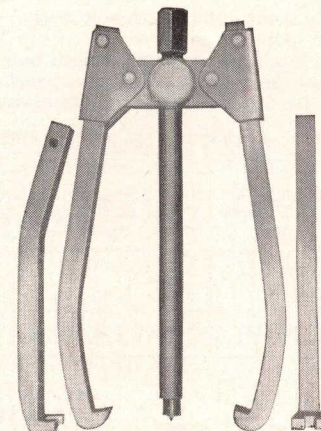
Equipped with one pair of narrow thick lip jaws for general pulling.

### No. 263

Has three pairs of interchangeable jaws. This is one of the most popular because it economically functions as three different pullers. It is highly recommended for general automotive work, including the removal of timing gears. The three pairs of jaws include: One pair with narrow, thick lips for general pulling; one with wide thin lips for reaching behind gears with little clearance; one pair with slotted lips to fit cap screws 5/16, 3/8 and 7/16" for timing gear pulling.



Nos. 270 and 271



Nos. 281 and 282

### No. 270

Equipped with one pair of jaws for general heavy duty pulling.

### No. 271

Equipped with one pair of jaws for general heavy duty pulling.

### No. 281

Equipped with one pair of jaws with the power and capacity to handle pulling jobs on trucks, tractors, highway equipment, and heavy industrial machinery. Slotted jaws used for pulling tapped gears, clutch drums, etc.

### No. 282

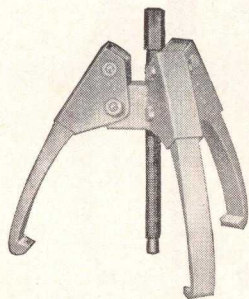
Same size as No. 281 but includes a pair of interchangeable slotted jaws for use in pulling with 5/8" cap screws.

MILITARY DESCRIPTION: GGG-P-00781, TYPE I, CLASS I, STYLE A

New No.	Old No.	"A" Reach	"B" Max. Spread	"C" Spread for Use on Wide Face Gears, etc.	"D" Diam. of Forcing Screw	"E" Jaw Size	Approx. Capacity in Tons	Weight Each, Lbs.
230	5-1	3	6	4	1/2	1/2 sq.	5	2.
232	5-2	3	6	4	1/2	1/2 sq.	5	2.
260	15-1	5	9-1/2	7	9/16	3/4 sq.	10	5.
263	15-3	5	9-1/2	7	9/16	3/4 sq.	10	12.
270	20	7	15	10-1/2	3/4	1 sq.	16	12.
271	30	10-3/4	19	14-1/2	7/8	1 sq.	16	16.
281	101D	17	28	21	1-1/4	1-1/4 sq.	28	40.
282	101C	17	28	21	1-1/4	1-1/4 sq.	28	42.



### WILLIAMS' 3-JAW "GRIP-TITE" PULLERS



Williams' 3-Jaw "Grip-Tite" Pullers provide maximum strength and performance for the toughest pulling jobs, because their three strong jaws distribute a powerful 3-point, balanced force on the part being pulled.

Their wide range of sizes fits them for many jobs from removing small gears to large, heavy flywheels. 3-Jaw "Grip-Tites" are needed for the proper main-

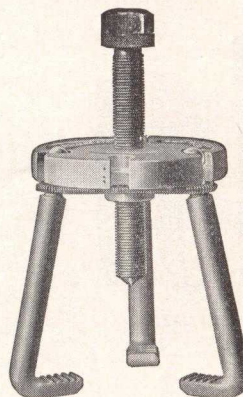
tenance of automobiles, trucks, tractors, farm equipment, airplanes and industrial machinery and equipment.

Jaws are interchangeable with 2-Jaw "Grip-Tites" in the corresponding size. 3-Jaw "Grip-Tites" are manufactured from high quality steel, forged and heat-treated. Their completely heat-treated forcing screws have the new "UNIFIED" thread form for maximum strength and ease of operation.

#### MILITARY DESCRIPTION: GGG-P-00781, TYPE 1, CLASS 2, STYLE A

New No.	Old No.	"A" Reach	"B" Max. Spread	"C" Spread for Use on Wide Face Gears, etc.	"D" Diam. of Forcing Screw	"E" Jaw Size	Approx. Capacity in Tons	Std. Pkg.
330	10	3	6	4	1/2	1/2 sq.	6	1
360	18	5	9-1/2	7	9/16	3/4 sq.	12	1
370	23	7	15	10-1/2	7/8	1 sq.	18	1
371	32	10-3/4	19	14-1/2	7/8	1 sq.	18	1
381	103	17	28	21	1-1/4	1-1/4 sq.	30	1

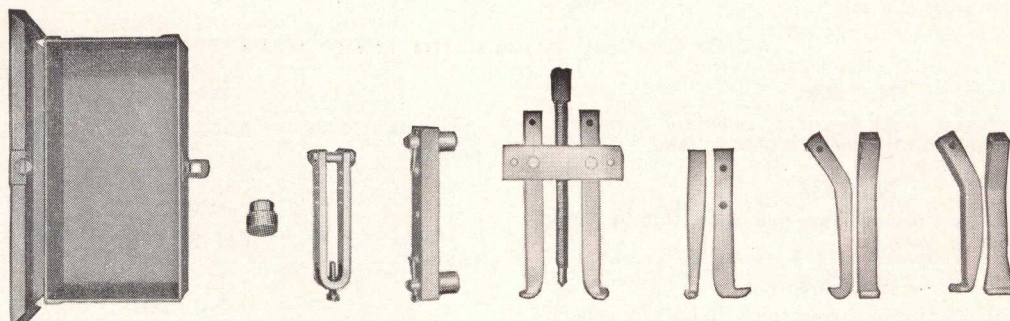
### WILLIAMS' WHEEL PULLER No. 5 FOR REFRIGERATION SERVICE



The body, forged from high tensile steel, has four sockets into which either two or all three of the arms may be placed in various positions, providing a combination of grips. Flywheels with even or odd numbers of spokes are pulled with equal ease. All three arms are necessary for odd-spoked wheels, while only two are needed for an even number of spokes. The pulling capacity is 7" diameter. Arms, processed from alloy steel, are held in place by an endless spring. They are instantly reversible by merely turning the arm in the socket.

No.	Capacity Diam.	Body Diam.	Length Arms	Std. Pkg.	Extra Parts		
5	7	3 1/4	4 1/4	1	Arms	Screw	Spring

### WILLIAMS' No. 160 "ALL PURPOSE" PULLER (Old No. 88-105-77)



Removes bearing cups, bearing races, gears, bearings, pinions, pulleys, etc. General automotive and truck pulling.

Four pairs of interchangeable jaws using one block and forcing screw make this an "all purpose" puller adaptable to a wide variety of pulling jobs. Actually four pullers combined into one, saving service men the necessity of purchasing four separate pullers.

Jaws are completely heat-treated for maximum strength. 5/8" forcing screw is completely heat-treated and has the new "UNIFIED" thread form for greater fatigue strength. Furnished complete with four pairs of jaws (Bearing Cup, Side Carrier, Narrow, and Wide), housing bar, jaw lock yoke, and step plate adaptor. All parts are contained in a strong metal case.

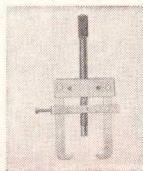
#### 1. BEARING CUP JAWS

—Accurately circle ground to provide full grip regardless of size of bearing cup. Wide range handles car, truck, tractor jobs. Reach 5-1/2". Spread 2-3/4 to 6-1/2".



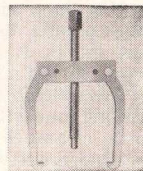
#### 2. SIDE CARRIER JAWS

—Removes and installs side carrier bearings. Extra long lip for full grip on bearing cone.



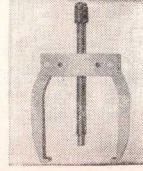
#### 3. NARROW, THICK LIP JAWS

—For general work. Reversible for some inside pulling jobs. Reach 5 1/4". Max. spread, 10-1/2". Spread for wide face gears, 7-1/2". Jaw size, 3/4" square.



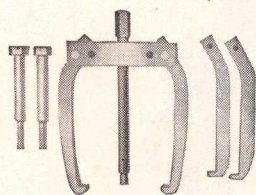
#### 4. WIDE, THIN LIP JAWS

—Used for reaching behind gears where there is little clearance. Reach and spread equal to narrow jaws.





### WILLIAMS' No. 150 "ALL PURPOSE" PULLER (Old No. 89-3)



The No. 150, with its assortment of jaw styles, is well suited for general automotive pulling, electrical work, timing gear removal and other similar work.

It is a favorite puller of many repair and maintenance men because it has wide jaw capacity, sturdy construction and is economically priced. The No. 150 is available with three pair of jaws:—

One pair narrow, thick lip jaws. Excellent for general pulling. Easily adjusted to fit different size gears. Reversible for some kinds of inside pulling.

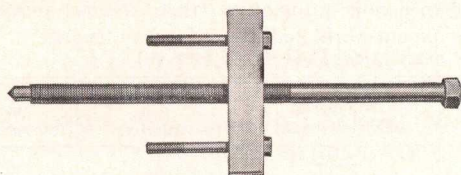
One pair wide, thin lip jaws. These curved jaws are ideal for reaching behind gears with little clearance.

One pair of stud jaws to fit 5/16-3/8" tapped holes. For removing timing gears, starter clutches, Chevrolet crank shaft timing gears, etc.

All jaws are interchangeable and use the same block, forcing screw and cap screws.

New No.	Old No.	"A" Reach	"B" Max. Spread	"C" Spread for Use on Wide Face Gears, etc.	"D" Diam. of Forcing Screw	"E" Jaw Size	Approx. Capacity in Tons	Std. Pkg.
150	89-3	5-3/4	10	7-1/2	9/16	5/8 sq.	7 to 8	1

### WILLIAMS' No. 170 "CHEVY" PULLER



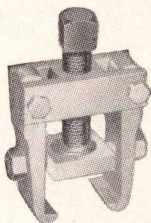
#### MILITARY DESCRIPTION: GGG-P-00781, TYPE VIII

This new puller is especially designed for pulling Chevrolet crankshafts, fan pulleys, and timing gears.

The No. 600 Bearing Splitter can be used with the No. 170 Puller to remove small gears and bearings, and its wide range of adjustment adapts it to a variety of work.

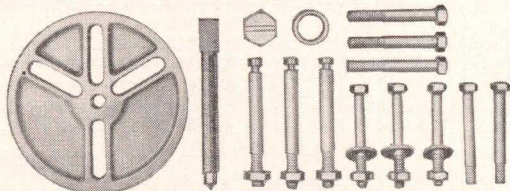
Forcing screw is 12" long and side screws fit 3/8" x 16 tapped holes. Packed one to a box.

### WILLIAMS' No. 180 UNIVERSAL STEERING ARM PULLER (Old No. 70)



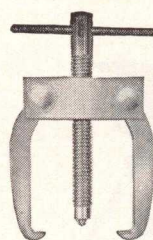
This is a popular puller for removing Pitman arms on all automobiles and most trucks. Jaws are held firmly in position by a special jaw lock, thus assuring service men a tight grip when removing the hard ones. Packed one to a box.

### WILLIAMS' No. 185 STEERING WHEEL AND FLANGE PULLER

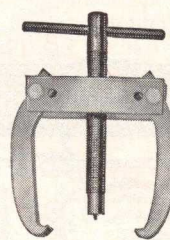


No. 185 will pull practically all late model steering wheels. Its complete design adapts it for use as a Flange and Pulley Puller. Slotted holes allow adjustment to different size pulling jobs. Packed one to a box.

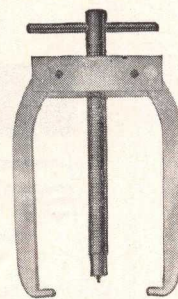
### WILLIAMS' MIDGET AND ELECTRICAL PULLERS



No. 100  
Midget



No. 130  
Electrical



No. 131  
Electrical

The No. 100 Midget Puller saves repairmen time and trouble when removing small obstinate parts located where larger size pullers cannot be applied. Its thin jaws (5/16") and gentle power make it ideal for pulling small gears, armatures, bearings, etc.

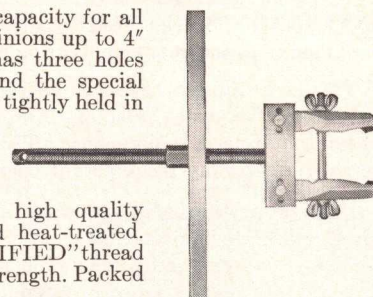
Nos. 130 and 131 Electrical Pullers are recognized as leaders for use in electrical maintenance on refrigeration equipment, air conditioners, washing machines, electric and gasoline motors, automobiles, etc. Their thin, forged jaws are designed for reaching behind hard-to-get-at gears and pulleys.

New No.	Old No.	"A" Reach	"B" Max. Spread	"C" Spread for Use on Wide Face Gears, etc.	"D" Diam. of Forcing Screw	"E" Jaw Size	Approx. Capacity in Tons	Std. Pkg.
100	0	1-5/8	3	1-3/4	5/16	5/16 sq.	1	1
130	13	2-3/4	6-1/2	4-1/4	1/2	1/2 sq.	4	1
131	13A	5-1/8	8	5	1/2	1/2 sq.	4	1

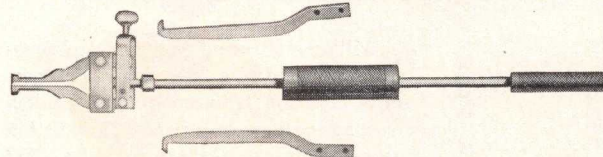
### WILLIAMS' UNIVERSAL PINION PULLER No. 190 (Old No. 60)

No. 190 Puller has capacity for all bevel or square face pinions up to 4" diameter. The block has three holes for jaw adjustment and the special curved design jaws are tightly held in full grip position by the jaw lock.

The No. 190 is exceptionally strong and powerful, made from high quality alloy steel, forged and heat-treated. Forcing screw has "UNIFIED" thread design for maximum strength. Packed one to a box.



### WILLIAMS' SLIDE HAMMER PULLER No. 420 (Old No. 14-A)



#### MILITARY DESCRIPTION: GGG-P-00781, TYPE III, CLASS I

Superior design and construction are clearly evident in the No. 420 Puller. Jaws being the most important part of any slide hammer puller, the No. 420 jaws have been designed to provide the ultimate in efficiency for pulling pilot bearings, grease retainers and bushings, including the thin wall bushings found in Dodge and Plymouth.

Two sizes of jaws are available—the short length for pulling pilot bearings and the long length for grease retainer work. They are carefully shaped and machined to close specifications which insure a maximum grip, an exclusive jaw lock holds them firmly in that position.

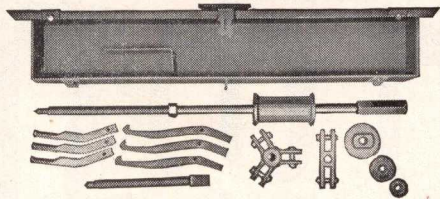
Jaws are manufactured from high quality alloy steel, completely heat-treated for maximum strength. Shaft handle and slide hammer are made extra long and knurled for safety and easy handling.

No. 420 Complete puller with both pairs of jaws. Packed one to a box.



## WILLIAMS' No. 450 HEAVY DUTY SLIDE HAMMER PULLER

(Old No. 111)



For removing bearing races, grease retainers, starter gears and bearings, V-Belt pulleys, fan hubs and pulleys, universal joint flanges, sprocket wheels, timing gears, bushings, bearings, gears, etc.

Williams' Heavy Duty Slide Hammer Puller incorporates the advantages of both forcing screw and slide hammer action on one full length shaft. This enables service men to use one or both forces when working on difficult pulling jobs.

There is ample strength in the 3/4" diameter shaft. The 4-1/2 pound slide hammer develops a tremendous blow in its long 14" stroke. The jaws are locked securely in position by the jaw lock disc.

Two styles of tough, heat-treated jaws are available (3 Jaws to a set):—

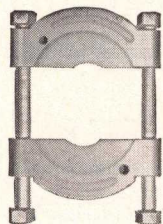
**EXTERNAL** — For outside work, and reversible for some inside pulling jobs.

**INTERNAL** — Special design, narrow lip jaws for inside pulling of grease retainers, bearing races, etc.

This large capacity puller is widely recommended for use in automotive, truck, tractor, farm equipment repair and general industrial maintenance. The separate 10" forcing screw and two-way block permit operation in limited space.

Puller unit is furnished complete with shaft; both sets of jaws; small, medium and large jaw lock discs; separate 10" forcing screw, two and three-way blocks. All parts are contained in a strong, metal case. Weight, 26.5 lbs.

## WILLIAMS' BEARING SPLITTERS



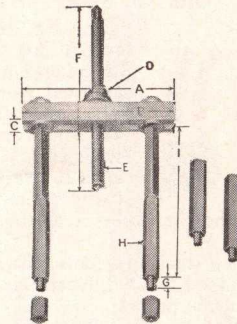
Williams' Bearing Splitters are accurately tapered to a fine edge, which permits insertion between double Timken bearings or between a pair of close fitting gears. Their special shape provides a full even hold, thereby reducing the risk of damaging the part being pulled or the shaft itself.

They are excellent tools for pulling parts located where jaws of regular pullers cannot be applied. The three sizes of Williams' Bearing Splitters will handle automotive, truck, tractor, aviation and industrial maintenance work.

**MILITARY DESCRIPTION: GGG-P-00781, TYPE XII**

New No.	Old No.	Capacity	Hole Thread Size	Use with Puller Number	Wgt. Each, Lbs.
600	...	1/4 to 2-1/2"	3/8-16	130, 150, 170, 230	2.
620	425	3/4 to 4-1/4"	5/8-18	160, 260, 270, 520, 530	6.
630	426	1-1/4 to 6"	5/8-18	160, 270, 271, 520, 530	11.

## WILLIAMS' PULL-OR-PRESS



Remove old worn out parts and replace new ones quickly and efficiently with Williams' Pull-or-Press. Actually, more than just a press, for it can be fitted to the job by the use of Pull-or-Press extension legs by simply attaching one, two or as many as required. Because they are attached directly together and are made in one standard length (4-3/4"), Pull-or-Press extension legs eliminate the necessity of couplings and different length legs. Use Pull-or-Press with Williams' Bearing Splitters and Williams' Adapters for greater versatility.

Pull-or-Press is made in three sizes, providing sufficient capacity to handle automotive, truck, tractor, aviation and farm equipment work, and industrial maintenance.

**MILITARY DESCRIPTION: GGG-P-00781, TYPE VII**

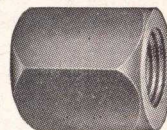
No.	Number of Extension Legs	Capacity Tons Approx.	Weight Each, Lbs.
520	2 pair	13	10.
530	2 pair	25	12.
540	3 pair	25	24.

## DIMENSIONAL SPECIFICATIONS

No.	"A" Block Length	"B" Spread Range	"C" Block Width	"D" Nut Size	"E" Forcing Screw	"F" Screw Lgth.	"G" Leg Thread	"H" Leg Size Hex	"I" Leg Lgth.
520	8-1/4	2 to 7-3/4	1-3/8	1	5/8x18	12	5/8x18	7/8	9-1/2
530	10-1/2	4-3/4 to 9-3/4	2	1-1/2	1 x14	13	5/8x18	7/8	9-1/2
540	13-1/2	4-3/4 to 12-3/4	2	1-1/2	1 x14	13	5/8x18	7/8	14-1/4

\*"UNIFIED" forcing screw has special heat-treated removable tip for screw protection and for convenience when using William's Threaded Adapters.

## WILLIAMS' THREADED ADAPTERS



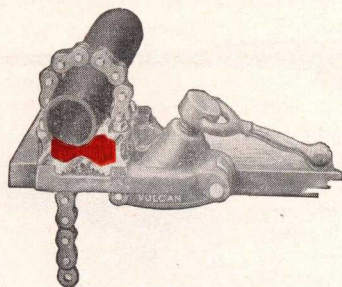
No.	Size	No.	Size
A-810	5/8-18 x 5/8-18	A-814F	5/8-18 x 7/8-18
A-812	5/8-18 x 3/4-16	A-816	5/8-18 x 1-14
A-812F	5/8-18 x 3/4-20	A-818	5/8-18 x 1-1/8-12
A-813	5/8-18 x 13/16-16	A-820	5/8-18 x 1-1/4-12
A-814	5/8-18 x 7/8-14		

## SET No. A-825

Contains one each Nos. A-810, A-812, A-814, A-816, A-818 and A-820. Used to pull axles and other threaded shafts. Will fit the three sizes of Pull-or-Press.



### WILLIAMS' VULCAN SUPERIOR® DROP-FORGED CHAIN PIPE VISE



The "Vulcan Superior" Vise provides the convenience of "overhead" adjustment.  
**Reversible** jaws, too, for longer life.

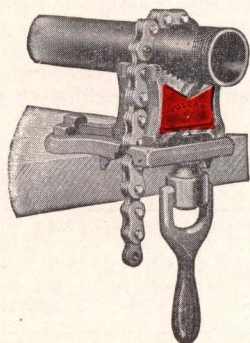
Wholly made from tough wrought steel. **Drop-forged** base, jaws, handle and chain-arm. The chains are of the same unsurpassed quality as those of the widely established "Vulcan" Chain Pipe Tongs.

Standard Finish—baked gray enamel with orange panel.  
Packaged one in a box.

No.	For Pipe, Sizes	Std. Pkg.	Extra Parts				
11	1/8 to 2 1/2	1	Jaws in Pairs	Chain without Arm	Chain Arm Only	Handle with Screw	Adjusting Screw Only
12	1/4 to 4 1/2	1					

### WILLIAMS' VULCAN® DROP-FORGED CHAIN PIPE VISE

For Holding Pipe, Bolts, Bars, Shafts, etc.,  
from 1/8 to 8 inches in Diameter



Adjustment is quickly effected by engaging the projecting rivets of the chain with a series of stepped bosses on the base.

Made entirely of wrought steel; the drop-forged jaws are of saw-tempered steel for file-sharpening. The chains are of same quality as those of our "Vulcan" Chain Pipe Tongs. All Vises are packed in individual boxes for convenient shelving.

Standard Finish—baked gray enamel with orange panel.

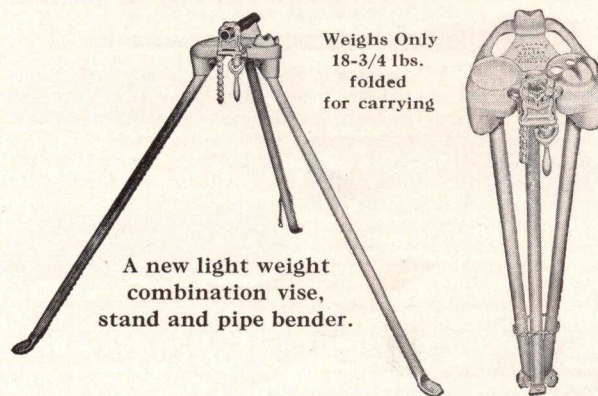
**MILITARY DESCRIPTION: MIL-V-15755, TYPE X, CLASS A  
GGG-V-436B, TYPE X, CLASS A**

Orders for Chains take Screw also, unless otherwise specified.

No.	For Pipe, Sizes	Size, Folded for Packing	Std. Pkg.	Extra Parts				
1	1/8 to *2-1/2	4x 5x 6	1	Jaws in Pairs	Chain with Screw	Chain Screw Only	Handle with Nut	Nut Only
2	1/4 to 4	6x 8x 8	1					
3	1/4 to 6	8x 9x11	1					
4	1/4 to 8	8x10x12	1					

\* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

### WILLIAMS' VULCAN® ALUMINUM VISE STAND No. AV-1



Weights Only  
18-3/4 lbs.  
folded  
for carrying

A new light weight  
combination vise,  
stand and pipe bender.

Has all the advantages of rigidity and strength found in heavier iron or steel types combined with light weight. There is no sacrifice of efficiency or performance yet weight is reduced nearly 50%.

Base is made from special aluminum alloy which has high tensile and high impact properties. Its heavily reinforced design prevents distortion under severe service. Recess for oil can and handy slots for tools are provided in addition to the "V" pipe support in rear.

**Pipe Benders** are provided in two sizes. One handles pipe up to 1/2 inch, the other handles pipe up to 3/4 inch.

**Legs** are 1-1/2" special aluminum alloy tubing. Uspect feet are punched for fastening to floor, if desired. Legs may be folded and tied together with attached chain for easy carrying.

**Vise** is "Vulcan" No. 1 with all its time tested features as described on this page except it has satin aluminum finish.

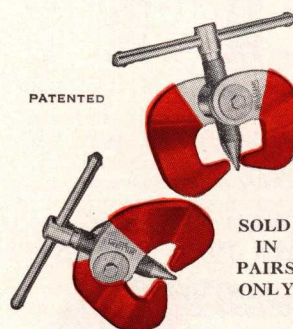
**Finish**—entire assembly has satin aluminum finish.

All parts of Vise and Stand are interchangeable.

Vise Stand No.	For Pipe Sizes	Std. Pkg.	No. 1 "Vulcan" Vise Parts					
			Jaws in Pairs	Chain with Screw	Chain Screw Only	Handle with Nut	Handle Only	Nut Only
AV-1	1/8 to *2-1/2"	1						

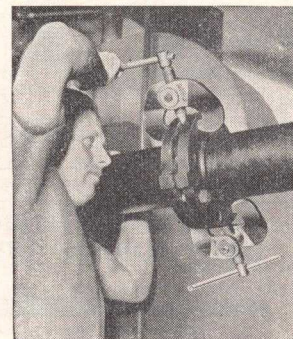
\* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

### WILLIAMS' FLANGE-JACKS



PATENTED

SOLD  
IN  
PAIRS  
ONLY



Operating with a minimum of effort, FLANGE-JACKS exert tremendous pressure smoothly and evenly. The flanges are parted quickly and held in perfect alignment without damage to flange faces.

There is no shock along the pipe line, no danger from flying wedges and no sparks are caused by hammer blows. FLANGE-JACKS eliminate costly shutdowns, making possible fast, economical repairs in hard-to-get-at locations.

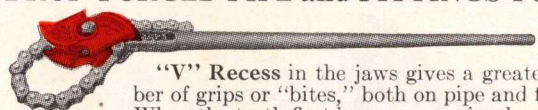
Technical data sheet covering Flange-Jacks capacities for all standard flange faces in various pipe classes and the dimensional limitations of special flanges available on request.

Table below indicates Flange-Jacks capacities for standard raised face flanges in widely used cast iron and steel pipe classes.

No.	Capacity—Standard Raised Face Flanges				Std. Pkg.
	125 lb. Cast Iron	150 lb. Steel	250 lb. Cast Iron	300 lb. Steel	
20	2" to 20"	2" to 20"	1" to 12"	3/4" to 12"	1 Pair
30	16" to 48"	18" to 24"	12" to 30"	12" to 24"	1 Pair



## WILLIAMS' VULCAN® SUPERIOR DROP-FORGED PIPE and FITTINGS TONGS



"V" Recess in the jaws gives a greater number of grips or "bites," both on pipe and fittings. When the teeth first in use wear, simply unscrew through bolt and turn reversible jaws end-for-end.

**Chains**—Either Flat Link, or Cable Chain, (except No. 0).

**Proof-testing.** Each Flat Link Chain is individually "proof-tested" to two-thirds of its breaking strain.

Made from tough wrought steel; all parts interchangeable.

Standard finish—jaws are orange baked enamel.

**MILITARY DESCRIPTION: MIL-W-16168, TYPE III  
GGG-W-00651, TYPE III**

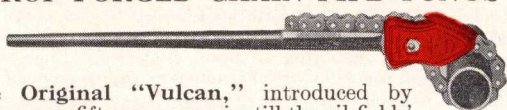
Number	0	1	2	3	3 1/2	4	5
For Pipe and Fittings, in.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Standard Flat Link Chain,							
Length	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800
Cable Chain,							
Length		14 1/2	18	27	33 1/2	42	57
Breaking Strain, lbs.		6,000	9,000	12,500	14,300	15,700	21,800

### Extra Parts

Flat or Cable Chain	Jaws in Pairs	Bolt and Nut
---------------------	---------------	--------------

† Extra Jaws supplied in pairs unless otherwise called for. If only a single jaw is wanted, specify Right or Left.

## WILLIAMS' GENUINE VULCAN® DROP-FORGED CHAIN PIPE TONGS



The Original "Vulcan," introduced by Williams over fifty years ago, is still the oil-fields' favorite tongs for general work. Made entirely from tough wrought steel and fully guaranteed.

**Chains** swing from the center and can be used on either side of the jaws, thus reducing wear upon specific teeth.

**Proof-testing.** Each Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard finish—jaws are orange baked enamel.

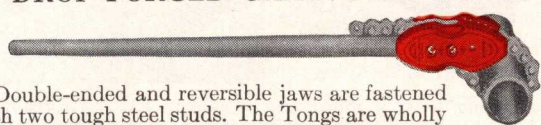
**MILITARY DESCRIPTION: MIL-W-16168, TYPE III  
GGG-W-00651, TYPE III**

Number	10	11	12	13	13 1/2	14	15	16
Cap., Size Pipe, in.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12	4-18
Extreme Length	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2	87
Flat Standard Chain								
Length	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2	74 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800	40,000
Cable Chain								
Length		14 1/2	18	27	33 1/2	42	57	76
Break. Strain, lbs.		6,000	9,000	12,500	14,300	15,700	21,800	40,000

### Extra Parts

Flat or Cable Chain	Jaws in Pairs	Bolt and Nut
---------------------	---------------	--------------

## WILLIAMS' IMPROVED VULCAN® DROP-FORGED CHAIN PIPE TONGS



Double-ended and reversible jaws are fastened with two tough steel studs. The Tongs are wholly made of wrought steel and are fully guaranteed.

**Chains** swing from the center and can be used on either side of the jaws, thus reducing wear upon specific teeth.

**Proof-Testing.** Each Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard finish—jaws are orange baked enamel.

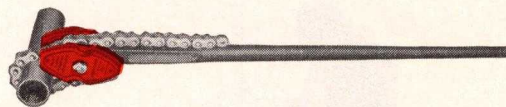
**MILITARY DESCRIPTION: MIL-W-16168, TYPE III  
GGG-W-00651, TYPE III**

Number	30	31	32	33	33 1/2	34	35
Capacity, Size Pipe, inches.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Flat "Standard" Chain							
Length	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800

### Extra Parts

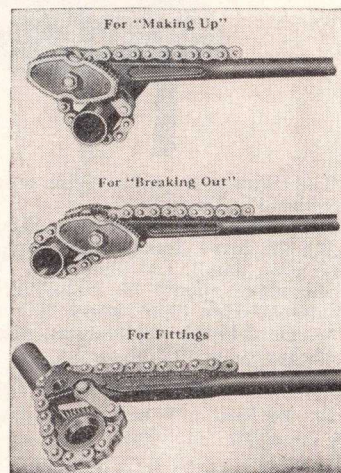
Flat Chain	Jaws in Pairs	Nuts and Studs
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## WILLIAMS' VULCAN® REVERSIBLE DROP-FORGED CHAIN PIPE TONGS





Without removing the tongs or loosening the chain "Vulcan" Reversible Tongs will turn pipe instantly in either direction. Since removal of the tongs is unnecessary no time is lost in reversing the action.

Outer jaws can be removed to make an efficient fittings tongs for narrow heads and flanges. Jaw removal is accomplished by taking out the single through bolt and self-locking nut used in assembly. These outer jaws are reversible end for end.



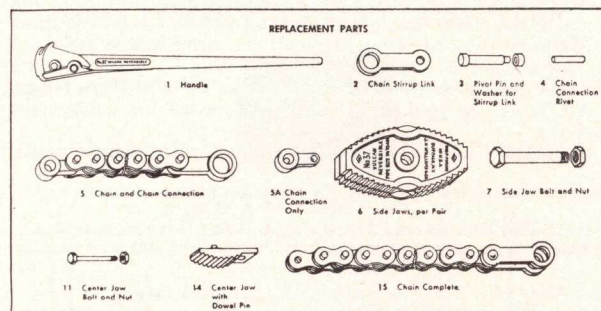
Standard finish—jaws are orange baked enamel.

**Chains** are standard Flat Link.

**Proof-Testing.** To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to two-thirds of its breaking strain listed in table. Each chain so tested is stamped  on the drop-forged swing link and to it is attached a leaden seal bearing our trade-mark  thus absolutely establishing the safety-factor and reliability of every tong.

Wholly made from tough wrought steel; all parts are interchangeable.

Number	27	37	47	57
For Pipe and Fittings, inches	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8
Extreme Length	27	37	44-1/2	50-1/2
Standard Flat Link Chain				
Length	17-1/2	22-1/2	32	40-1/2
Breaking Strain, Lbs.	9,800	12,500	14,300	15,700



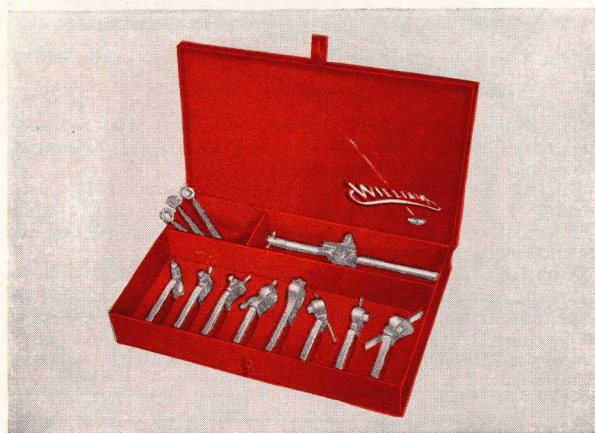
Order replacements by part number and tong size.

No. 5 Chain Replacement includes No. 5-A Chain Connection on one end and connection (not illustrated separately) on other end for "Vulcan" and other makes of single jaw pipe tongs. No. 15 Chain Replacement, with connections as illustrated, fits "Vulcan" Reversible and other make tongs of this type only.



## WILLIAMS' LATHE TOOL SETS

The Six "always ready" Sets illustrated below, provide for complete Lathe service—Turning, Boring, Knurling, Threading, Cutting-Off and Side work—in a minimum number of tools, unequalled elsewhere—High Speed Cutters and Wrenches are provided throughout. Strong steel case has convenient compartments for Holders, Cutters and Wrenches.



Williams Knurling-Tools Nos. 00-K to 2-K have self-centering heads, with ONE pair of Knurls for fine, medium, or coarse work. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

ONE Williams Holder takes BOTH cutting-off and side blades. A tool that performs both classes of work by the mere substitution of suitable cutters, tells its own story of economy. Both Cutting-off and Side Blades are furnished.

Each Williams Boring-Tool takes SIX or more sizes of Bars WITHOUT using bushings, ONE tool holds MANY Bars. Two styles of Bars—"Sleeve" as illustrated and "Plain" at lower price.

Williams Turning-Tools have Large Alloy Steel Screw—heat-treated, unbreakable. Their accurately broached hole provides rigid seat for cutter—no chatter, no breakage.

Williams Threading-Tools Nos. 00-T to 52 with Formed Cutter assure threads that fit perfectly. In resharping the Cutter, grind its top edge only. The point will always retain the proper form and angle.

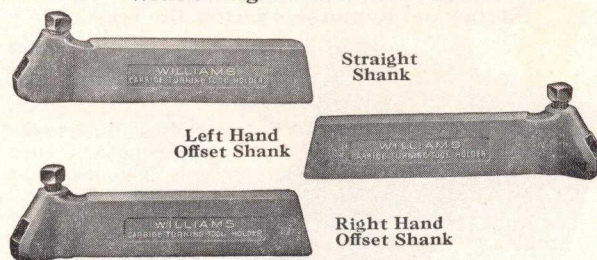
Williams Sleeve Boring-Bar fastening provides for the rapid adjustment of either straight or angular cutters without use of extra parts. It is stronger than others of same general design.

Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportions of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

WILLIAMS' TOOL HOLDERS IN SETS													Qty. of Tools in Set	Std. Pkg.
Set No.	For Lathes of Approx. Swing Inches	Turning Tools			Cutting-off and Side Tools			Thrd- ing Tool No.	Bor- ing Tool No.	Knur- ling Tool No.				
		Strgt. Shank No.	Offset Shank		Strgt. Shank No.	Offset Shank								
			R.H. No.	L.H. No.		R.H. No.	L.H. No.							
00A	7 to 10	00-S	00-R	00-L	19	29-R	29-L	00-T	00-B	00-K	9	1		
0A	10 to 12	0-S	0-R	0-L	20	30-R	30-L	50	8	0-K	9	1		
1A	14 to 16	1-S	1-R	1-L	21	31-R	31-L	51	9	1-K	9	1		
2A	16 to 18	2-S	2-R	2-L	22	32-R	32-L	52	10	2-K	9	1		
*3	18 to 20	3-S	3-R	3-L	23	33-R	33-L	...	11	...	7	1		
*4	24 to 36	4-S	4-R	4-L	24	34-R	34-L	...	...	...	6	1		

\* Metal case is not supplied with Sets 3 and 4.

## WILLIAMS' CARBIDE TURNING-TOOL HOLDERS With Straight and Offset Shanks



Furnished with Wrench but without Cutter

In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for square Carbide Cutters, but are supplied WITHOUT CUTTERS.

Williams Carbide Tipped Cutters, for use with the above holders, are available in two grades and four standard shapes of tips. See full description below.

MILITARY DESCRIPTION: MIL-H-912, TYPE I, CLASS 1, 2, 3

Straight Shank	Number		Holder, Size	Cutter Size, Square	For Lathes of Approx. Swing, Inches	Std. Pkg.
	Offset Shank					
	Right Hand	Left Hand				
T-0-S	T-0-R	T-0-L	3/8 x 15/16 x 6	1/4	9 to 10	1
T-1-S	T-1-R	T-1-L	1/2 x 1 1/4 x 8	5/16	11 to 14	1
T-2-S	T-2-R	T-2-L	5/8 x 1 1/2 x 8	3/8	14 to 16	1
T-3-S	T-3-R	T-3-L	3/4 x 1 3/4 x 9	7/16	16	1
T-4-S	T-4-R	T-4-L	7/8 x 1 7/8 x 10	1/2	18	1
T-5-S	T-5-R	T-5-L	1 x 2 1/8 x 12	5/8	20 to 24	1

## WILLIAMS' CARBIDE TIPPED TURNING CUTTER BITS With Square Shanks



80° Round Nose Left Hand Right Hand Square Nose

Williams CARBIDE TIPPED Turning Cutter Bits are available in four standard cutter shapes and two grades to fit square shank holders. Grade 883 with shanks lacquered Gray are designed for machining cast iron, brass, bronze, aluminum and non-metals. Grade 78B with shanks lacquered Orange are designed for machining steel. These grades will be found satisfactory for general shop use; Gray for all non-ferrous metals, etc. and Orange for all steels.

These firmly cemented carbide tips are finely ground ready for use and are individually covered with a protective ethyl cellulose sheath.

Please specify Grade desired when ordering:  
Gray for Cast Iron, etc., Orange for Steel.

Right Hand		Left Hand		SQUARE SHANK TURNING CUTTERS		
New No.	Old No.	New No.	Old No.	Shank Size	Tip Size	Standard Package
AR-4	M-41	AL-4	M-71	1/4 x 1/4 x 2 1/4	3/32x3/16x5/16	6
AR-5	M-42	AL-5	M-72	5/16x5/16x2 1/4	3/32x1/4 x 1/2	6
AR-6	M-43	AL-6	M-73	3/8 x 3/8 x 2 1/2	3/32x1/4 x 1/2	6
AR-7	M-44	AL-7	M-74	7/16x7/16x3	3/32x1/4 x 1/2	4
AR-8	M-45	AL-8	M-75	1/2 x 1/2 x 3 1/2	1/8 x 5/16x5/8	4
AR-10	M-47	AL-10	M-77	5/8 x 5/8 x 4	5/32x3/8 x 3/4	4
Square Nose		80° Rd. Nose		Shank Size	Tip Size	Standard Package
New No.	Old No.	New No.	Old No.			
C-4	M-11	D-4	M-121	1/4 x 1/4 x 2 1/4	1/16x1/4 x 5/16	6
C-5	M-12	D-5	M-122	5/16x5/16x2 1/4	3/32x5/16x3/8	6
C-6	M-13	...	...	3/8 x 3/8 x 2 1/2	3/32x3/8 x 3/8	6
...	...	D-6	M-123	3/8 x 3/8 x 2 1/2	3/32x3/8 x 1/2	6
C-7	M-14	D-7	M-124	7/16x7/16x3	3/32x7/16x1/2	4
C-8	M-15	...	...	1/2 x 1/2 x 3 1/2	1/8 x 1/2 x 1/2	4
...	...	D-8	M-125	1/2 x 1/2 x 3 1/2	1/8 x 1/2 x 9/16	4
C-10	M-17	D-10	M-127	5/8 x 5/8 x 4	5/32x5/8 x 5/8	4



## WILLIAMS' CARBIDE TURNING-TOOL HOLDER SETS

In Metal Case with Convenient  
Sliding and Removable Cutter Bit Tray



All sets contain three Carbide Turning-Tool Holders, eight Carbide Tipped Cutter Bits, and one wrench.

In addition to the three holders, each set contains eight Carbide Tipped Cutter Bits—four Grade 883 with shanks lacquered gray for non-ferrous metals and four Grade 78B with shanks lacquered orange for steel. Both grades are furnished with one each Right Hand, Left

Hand, Square Nose and 80° Round Nose Cutters.

### WILLIAMS' CARBIDE TOOL HOLDERS IN SETS

Set No.	For Lathes of Approx. Swing Inches	Carbide Turning Tools				Size of Holder Shank	Cutter Size Square Inches	Std. Pkg.
		Strgt. Shank No.	Offset Shank Right Hand No.	Offset Shank Left Hand No.				
M-0A	10 to 12	T-0-S	T-0-R	T-0-L		3/8x15/16	1/4	1
M-1A	14 to 16	T-1-S	T-1-R	T-1-L		1/2x1-1/4	5/16	1
M-2A	16 to 18	T-2-S	T-2-R	T-2-L		5/8x1-1/2	3/8	1
M-3A	18 to 20	T-3-S	T-3-R	T-3-L		3/4x1-3/4	7/16	1
M-4A	24 to 36	T-4-S	T-4-R	T-4-L		7/8x1-7/8	1/2	1

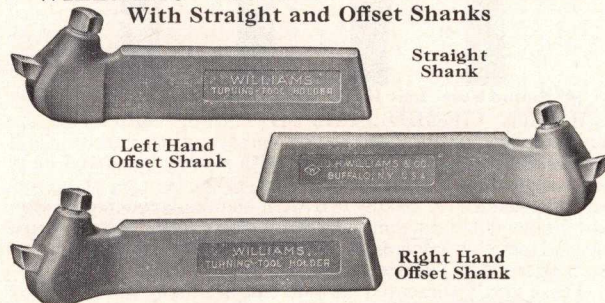
\* Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportion of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

#### Carbide Tipped Turning Cutter Bits

Grade 883 Gray Shanks				Grade 78B Orange Shanks			
Right Hand No.	Left Hand No.	Square Nose No.	80° Rd. Nose No.	Right Hand No.	Left Hand No.	Square Nose No.	80° Rd. Nose No.
AR-4	AL-4	C-4	D-4	AR-4	AL-4	C-4	D-4
AR-5	AL-5	C-5	D-5	AR-5	AL-5	C-5	D-5
AR-6	AL-6	C-6	D-6	AR-6	AL-6	C-6	D-6
AR-7	AL-7	C-7	D-7	AR-7	AL-7	C-7	D-7
AR-8	AL-8	C-8	D-8	AR-8	AL-8	C-8	D-8

## WILLIAMS' TURNING-TOOL HOLDERS

With Straight and Offset Shanks



Furnished with Cutter and Wrench

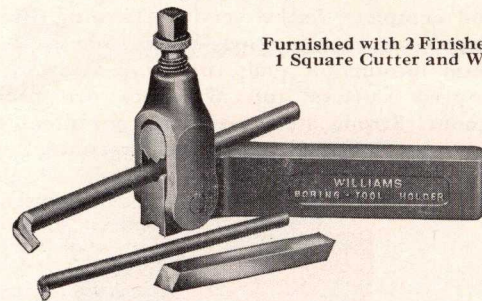
Holders have nose chamfered and are specially heat-treated and hardened. The cutter-holding channel provides a true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed Steel bits. Alloy steel Set Screws are accurately machined, heat-treated and hardened. High Speed Cutters are furnished in a "diamond-point" form that requires a minimum of grinding.

MILITARY DESCRIPTION: MIL-H-912, TYPE II, CLASS 1, 2, 3

Straight Shank	Offset Shank		Holder, Size		Cutter Size, Square	For Lathes of Approx. Swing Inches	Std. Pkg.
	Right Hand	Left Hand					
000-S	000-R	000-L	5/16x	1/2x 4	3/16	6 to 7	1
00-S	00-R	00-L	5/16x	3/4x 4	3/16	7 to 10	1
0-S	0-R	0-L	3/8 x	7/8x 5	1/4	10 to 12	1
1-S	1-R	1-L	1/2 x1	1/8x 6	5/16	14 to 16	1
2-S	2-R	2-L	5/8 x1	3/8x 7	3/8	16 to 18	1
3-S	3-R	3-L	3/4 x1	5/8x 8	7/16	18 to 20	1
4-S	4-R	4-L	7/8 x1	3/4x 9	1/2	24 to 36	1
5-S	5-R	5-L	1	x2 x11	5/8	.....	1
6-S	6-R	6-L	1 1/4x2	1 1/4x13	3/4	.....	1

## WILLIAMS' LIGHT BORING-TOOL HOLDERS

For Small, Light Boring, Turning, Etc.



Furnished with 2 Finished Bars, 1 Square Cutter and Wrench

This Holder is very handy and economical for tool room use and for all small work—not only in boring small diameters, threading, etc., but also in turning.

**Boring.** Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The solid Bars are High Speed Steel, carefully hardened and ground, ready for use.

**Turning.** The Holder, with offset shank, is reversible for right and left hand work. The self-adjusting gib allows the yoke to clear the end of the Holder. A hardened, High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.

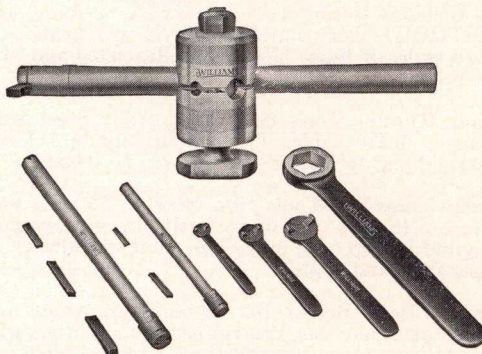
MILITARY DESCRIPTION: MIL-H-912, TYPE VII, CLASS 1, STYLE A

No.	Holder Size Shank	With Each Holder		For Lathes of Approx. Swing Inches	Std. Pkg.
		Two Bars High Speed Steel, Diameter	One High Speed Square Cutter		
15	3/8 x 3/4 x 5	1/8 & 1/4	1/4	9 to 10	1
16	1/2 x 1 x 5 3/4	3/16 & 5/16	5/16	11 to 14	1
17	5/8 x 1 1/4 x 6 3/4	1/4 & 3/8	3/8	14 to 16	1
18	3/4 x 1 1/2 x 7 1/2	5/16 & 7/16	7/16	16	1

#### EXTRA BORING BARS

Size.....	1/8 x 4	3/16x4-1/2	1/4 x 5	5/16x6	3/8 x 7	7/16x8	6
For Holders.	15 & 16	15 to 17	15 to 17	15 to 18	16 to 18	17 & 18	

## WILLIAMS' 3-BAR BORING TOOLS



Each Holder accommodates three sizes of Bars. Speedy changes can be made by a slight turn of the nut which releases or secures both Bar and Holder instantly. Speeds and feeds can be increased since this Holder allows the operator to use the strongest bar possible for each individual job.

Williams' 3-Bar Boring Tools are packed complete in a separate box, each set including Holder; three Sleeve Bars each with one 45° and one 90° high speed cutter and wrench; and one wrench for Holder nut.

MILITARY DESCRIPTION: MIL-H-912, TYPE VII, CLASS 2, STYLE B

No.	For Lathes Swing In.	Diameter Bars	Length of Bars	Size Cutters, Square	Std. Pkg.
0-BB	8 to 10	3/8, 1/2, 3/4	7, 7 1/2, 11	3/8, 1/2, 3/4	1
1-B	12 to 16	1/2, 3/4, 1 1/8	7 1/2, 11, 16	1/2, 3/4, 3/8	1
2-B	16 to 18	3/4, 1 1/8, 1 1/2	9 1/2, 13 1/4, 19	3/4, 1 1/8, 3/8	1
3-B	20 to 22	1 1/8, 1 1/2, 1 3/4	11, 16, 23 1/4	1 1/8, 3/8, 7/16	1
4-B	24 to 32	1 1/2, 1 3/4, 2	13 1/4, 19, 27 1/4	1 1/2, 3/8, 1/2	1

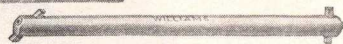
\* 3/8 x 7" Solid Bar as listed under "Extra Boring Bars" on this page. The "T" Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra net charge for each Post will be made.



## WILLIAMS' BORING-TOOL HOLDERS



Sleeve Bar



Plain Bar

Sleeves or bushings are unnecessary for Bars of various sizes. Sleeve-bar fastening provides for rapid adjustment of straight or angular Cutters. Plain Bar provides for use of straight or angular Cutters.

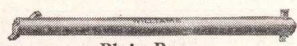
Standard size Sleeve Bar will be furnished unless otherwise specified  
**MILITARY DESCRIPTION: MIL-H-912, TYPE VII, CLASS 1, STYLE B**

New No.	Old No.	Holder, Size	Holder Cap. for Bars, Size Diam.	Std. Bar, Size Diameter	For Lathes, Approx. Swing In.	Std. Pkg.
00B	080	5/16 x 3/4	3/16 to 1/2	1/2	6 to 8	1
8	80	3/8 x 7/8	1/4 to 5/8	5/8	9 to 10	1
9	81	1/2 x 1 1/8	1/4 to 3/4	3/4	11 to 14	1
10	82	5/8 x 1 3/8	3/8 to 15/16	15/16	14 to 16	1
11	83	3/4 x 1 5/8	1/2 to 1 1/8	1 1/8	16	1
12	.....	7/8 x 1 3/4	1 5/16	1 5/16	18	1

## BORING-BARS AND CUTTERS



Sleeve Bar



Plain Bar

Furnished with Two Cutters and Wrench

Boring-Bars, Approximate Size and Number						Cutters	
Sleeve			Plain			For Use With Hldrs. No.	For Use at Angles of
No.	Size	Std. Pkg.	No.	Size	Std. Pkg.		
0B	1/2 x 7 5/8	1	0B-X	1/2 x 8 1/8	1	00B-11	3/16x1 90°
08	5/8 x 9 1/8	1	08-X	5/8 x 10 1/8	1	8-11	3/16x1 1/2 45°
09	3/4 x 11	1	09-X	3/4 x 12 1/8	1	9-11	3/16x1 45°
010	15/16x13 1/4	1	010-X	15/16x14 1/8	1	10-11	1/4 x1 1/4 90°
011	1 1/8 x 16	1	011-X	1 1/8 x 16 3/4	1	11	5/16x1 1/2 45°
012	1 5/16x19	1	012-X	1 5/16x20	1	12	3/8 x1 7/8 90°
013	1 1/2 x 23 1/4	1	013-X	1 1/2 x 23 1/2	1		3/8 x3 45°
014	1 13/16x27 1/4	1	014-X	1 13/16x28	1		3/8 x2 1/4 45°
015	2 1/4 x 33	1	015-X	2 1/4 x 34	1		7/16x2 1/4 90°
							7/16x3 3/8 45°
							1/2 x2 5/8 90°
							1/2 x4 45°
							5/8 x3 1/8 90°
							5/8 x4 3/4 45°

## WILLIAMS' THREADING-TOOL HOLDERS



FORMED CUTTER PATTERN

Furnished with Finished Cutter and Wrench



LOCKABLE-SPRING HEAD PATTERN

Furnished with Finished Cutter and Wrench

## LOCKABLE-SPRING PATTERN

For fine and coarse threading. Nut provides for rigid backing required for heavy cuts; when loosened, Holder becomes a spring-tool for finishing work. Equally efficient as a Turning-tool. Each end of H. S. Cutter is ground, the "V" point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

## FORMED-CUTTER PATTERN

In re-sharpening the Cutter, it is necessary to grind its top edge only. The point will always retain proper form and angle. H. S. Cutter is ground to an included angle of 60°.

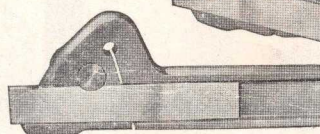
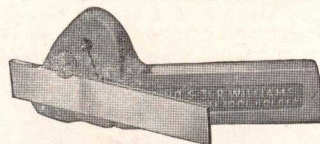
Hardened stop screw provides accurate adjustment.

**MILITARY DESCRIPTION: MIL-H-912, TYPE V, CLASS 1**

New No.	Old No.	Holder, Size	Cutter, Size Square	For Lathes of Approx. Swing Inches	Std. Pkg.
LOCKABLE-SPRING PATTERN					
S-50	.....	3/8 x 7/8 x 5 1/4	1/4	10 to 12	1
S-51	.....	1/2 x 1 1/8 x 6	5/16	14 to 16	1
S-52	.....	5/8 x 1 3/8 x 7	3/8	16 to 18	1
FORMED-CUTTER PATTERN					
00-T	C-050	5/16 x 3/4 x 5	Formed	7 to 10	1
50	C-50	3/8 x 7/8 x 5	Formed	10 to 12	1
51	C-51	1/2 x 1 1/8 x 5 3/4	Formed	14 to 16	1
52	C-52	5/8 x 1 3/8 x 7	Formed	16 to 18	1
53	.....	3/4 x 1 5/8 x 8	Formed	18 to 20	1

WILLIAMS' SPRING CUTTING-OFF TOOL HOLDERS  
With Straight and Right Hand Offset Shanks

Right Hand Offset Shank



Straight Shank

Furnished with Finished Cutter and Wrench

Due to the "goose-neck" form of the Holder, the Cutter Blade is relieved of excess pressure; no chattering, no "climbing" of the work on the tool—the real cause of nearly all breakage of cutting-off tools. Particularly efficient with automatic feed.

The cam-fastening is always rapid and positive—the greater the pressure the tighter the lock.

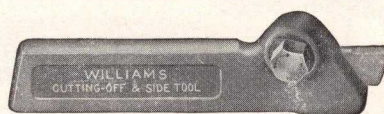
Cutter Blades are H. S. Steel, hardened and ground on both ends ready for use. By reversing blade end for end it can be used in Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size listed below.

Cut-off Blades are interchangeable in other std. Holders. Straight Shank Holders will be furnished, unless otherwise specified  
**MILITARY DESCRIPTION: MIL-H-912, TYPE III, CLASS 1, 3, STYLE B**

Number				Holder, Size	Cutter Blades, High Speed Steel, Finished Size	For Lathes of Approx. Swing Inches	Std. Pkg.
Straight Shank		Offset Shank Right Hand					
New No.	Old No.	New No.	Old No.				
		S-30-RA	NS-30-RA	3/8x 13/16	3/32x5/8	9 to 10	1
S-20	NS-20	S-30-R	NS-30-R	3/8x 31/32	3/32x5/8	9 to 10	1
S-21	NS-21	S-31-R	NS-31-R	1/2x1 3/16	1/8 x3/4	11 to 14	1
S-22	NS-22	S-32-R	NS-32-R	5/8x1 3/8	1/8 x7/8	14 to 16	1
S-23	NS-23	S-33-R	NS-33-R	3/4x1 5/8	3/16x1	16	1

## WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS

Right Hand Straight Shank



Left Hand Offset Shank



Right Hand Offset Shank

Furnished with Finished Cutter and Wrench

One Holder takes both Cutting-off and Side Blades.

The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock.

The Cutter Blades are H. S. Steel, hardened and ground on both ends ready for use. By reversing blade end for end it can be used in either Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size listed above.

These Cut-off Blades (not Side) are interchangeable in other standard Holders.

Cutting-off Blade will be furnished, unless otherwise specified.

**MILITARY DESCRIPTION: MIL-H-912, TYPE III AND IV**

Number			Holder, Size	Cutter Blades, High Speed Steel, Finished Size		For : Lathes of Approx. Swing Inches	Std. Pkg.
Strght. Shank Right Hand	Offset Shank			Cutting-Off Blade	Side Blade		
	Right Hand	Left Hand					
19	29-R	29-L	5/16 x 13/16	3/32x 1/2	1/8 x 1/2	6 to 8	1
20	30-R	30-L	3/8 x 31/32	3/32x 5/8	5/32x 5/8	9 to 10	1
21	31-R	31-L	1/2 x 3/16	1/8 x 3/4	3/16x 3/4	11 to 14	1
22	32-R	32-L	5/8 x 1/8	1/8 x 7/8	1/4 x 7/8	14 to 16	1
23	33-R	33-L	3/4 x 1/8	3/16x1	5/16x1	16	1
24	34-R	34-L	7/8 x 1/4	3/16x1 1/8	3/8 x 1 1/8	18	1
25	35-R	35-L	7/8 x 3/4	1/4 x 1 1/8	.....	18	1

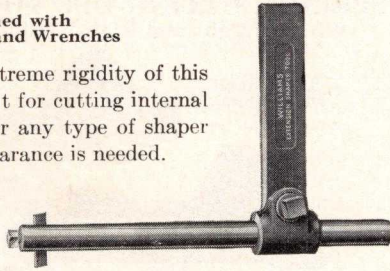
Note: Old Numbers had prefix "N". Numbers 19, 29-R and 29-L were previously known as N-020-R, N-030-R and N-030-L.



## WILLIAMS' EXTENSION SHAPER TOOLS

Furnished with  
Bar, Cutter and Wrenches

The design and extreme rigidity of this Shaper Tool adapts it for cutting internal keyways, die work or any type of shaper work where extra clearance is needed.



## MILITARY DESCRIPTION: MIL-H-912, TYPE IX

No.	Holder, Size	Size Bar	Size Cutter, Square	Standard Package
*46	3/8 x 7/8	1/2 x 7 1/2	3/16	1
47	1/2 x 1 1/8	3/4 x 10	5/16	1
48	5/8 x 1 3/8	15/16 x 12	3/8	1

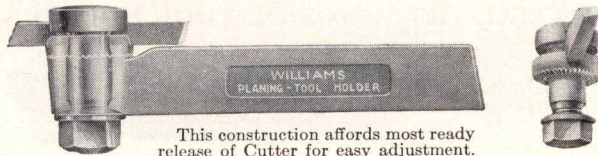
\* Instead of split collar, as illustrated, bar is held by two hollow set screws.

EXTRA BARS AND BUSHINGS  
Each Bar furnished with one Bushing,  
High Speed Cutter and Wrench.

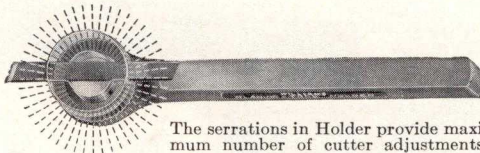
When ordering, please furnish number of Tool or Holder size in which Bar is to be used, otherwise bushing will not be included.

No.	Size Bar	Size Cutter, Square	With Bushing to Fit Holder Number	Without Bushing to Fit Holder Number	Std. Pkg.
0530	1/2 x 7 1/2	3/16	47 and 48	46	1
0532	5/8 x 8 1/2	1/4	47 and 48	47	1
0597	3/4 x 10	5/16	48	47	1
0598	15/16 x 12	3/8	.....	48	1

## WILLIAMS' PLANING-TOOL HOLDERS



This construction affords most ready release of Cutter for easy adjustment.



The serrations in Holder provide maximum number of cutter adjustments.

Furnished with Cutter and Wrench

A rugged, substantial and efficient tool on either Lathe or Planer. Because of its numerous angles of adjustment it also makes an excellent Offset Turning Tool.

The construction assures perfect seat and holding qualities for the Cutters; the convex face of Clamp Nut provides uniform locking pressure for Cutters of either square or rectangular form; the numerous serrations in Holder provide for quick, fine and maximum number of Cutter adjustments unequalled in other designs.

The serrated washer, or Adjustment Ring, which sustains the fastening and working strains, is hardened and tempered. Should it wear in prolonged service, a new Ring *only* is required—not a complete Holder.

## MILITARY DESCRIPTION: MIL-H-912, TYPE VIII

New No.	Old No.	Holder, Size	Cutter Size	Standard Package
40	91	1/2 x 1 x 7	1/4 x 3/8	1
401	92	5/8 x 1 1/4 x 8 1/2	5/16 x 7/16	1
41	93	3/4 x 1 1/2 x 10 1/4	3/8 x 1/2	1
42	94	1 x 1 3/4 x 13 1/4	1/2 x 3/4	1
43	95	1 3/8 x 2 x 16 1/2	5/8 x 7/8	1
44	96	1 3/4 x 2 3/8 x 19	3/4 x 1	1
45	97	2 1/8 x 2 3/4 x 22	7/8 x 1 1/8	1

## WILLIAMS' KNURLING-TOOL HOLDERS



Nos. 00-K to 2-K with  
Self-centering Head and  
One Pair of Knurls.

Nos. 3-K-0 to 3-K-2 with  
Revolving Head and  
Three Pairs of Knurls.



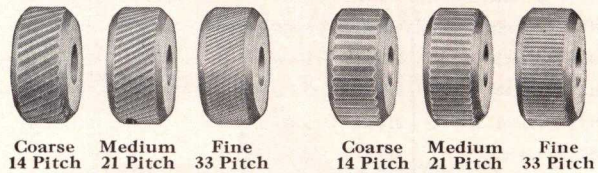
Nos. 00-K to 2-K, with sturdy, self-centering heads, are each fitted with ONE pair of Knurls for fine, medium, or coarse work. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

Nos. 3-K-0 to 3-K-2 carry THREE pairs of Knurls for fine, medium and coarse work. These are fitted in a revolving head and can be used as desired. The Pins are of Tool Steel, carefully tempered.

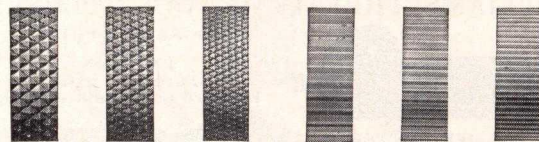
## MILITARY DESCRIPTION: MIL-H-912, TYPE VI, CLASS 1, 2

No.	Holder, Size	Knurls, Size			For Lathes of Approx. Swing, In.	Std. Pkg.
		Diam.	Face	Hole		
SELF-CENTERING HEAD—ONE PAIR OF KNURLS						
00-K	5/16 x 3/4 x 5	5/8	3/16	7/32	7 to 10	1
0-K	3/8 x 7/8 x 5 1/2	5/8	3/16	7/32	10 to 12	1
1-K	1/2 x 1 1/8 x 6 5/8	3/4	1/4	1/4	14 to 16	1
2-K	5/8 x 1 3/8 x 7 1/2	3/4	1/4	1/4	16 to 18	1
REVOLVING HEAD—THREE PAIRS OF KNURLS						
3-K-0	3/8 x 7/8 x 5 1/2	5/8	3/16	7/32	10 to 12	1
3-K-1	1/2 x 1 1/8 x 6 5/8	3/4	1/4	1/4	14 to 16	1
3-K-2	5/8 x 1 3/8 x 6 5/8	3/4	1/4	1/4	16 to 18	1

† Formerly numbered 11-K and 12-K respectively.

KNURLS FOR  
WILLIAMS' KNURLING-TOOL HOLDERS  
DIAMOND PATTERN STRAIGHT-LINE PATTERN

Note: "Pitch" means number of teeth per linear inch.



Illustrations above show actual size of Knurling

Williams Knurls are made to close limits in all respects and, being accurately cut, they assure sharp and perfect teeth in the knurled product. All Knurls are made from high grade tool steel and are specially hardened and tempered.

Furnished in pairs to fit standard makes of Knurling Tools and supplied in two Patterns—"Diamond" and "Straight-Line." Three different pitches in each Pattern—Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch; all as illustrated above. Specify Pattern and pitch desired by catalog number.

## MILITARY DESCRIPTION: MIL-H-912, TYPE VI

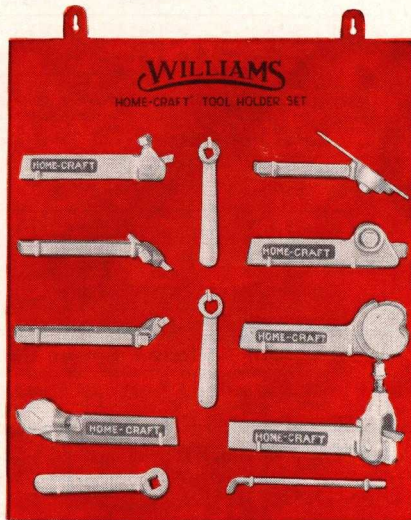
Knurl No.	For Knurling Tool No.	Pitch	Knurls, Size				Std. Pkg.
			Dia.	Thick- ness	Face	Hole	
DIAMOND PATTERN							
8227	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32	3 Pr.
8224	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32	3 Pr.
8221	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32	3 Pr.
8228	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4	3 Pr.
8225	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4	3 Pr.
8222	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4	3 Pr.
STRAIGHT-LINE PATTERN							
8267	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32	3 Pr.
8264	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32	3 Pr.
8261	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32	3 Pr.
8268	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4	3 Pr.
8265	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4	3 Pr.
8262	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4	3 Pr.



WILLIAMS'  
"HOME-CRAFT" TOOL HOLDER SET

In Metal Case

On Wood Panel



Williams "Home-Craft" Set consists of 8 Tool Holders with 3 Wrenches for all lathe operations—Turning, Cutting-Off, Boring, Threading, Knurling—and supplies a convenient, efficient and economical equipment for those using small lathes with 7 to 10" swing.

The Holders, or Shanks, all drop-forged from a strong, tough grade of carefully selected steel, are specially heat-treated and hardened. The nose of the Holders is chamfered to permit convenient use in cramped quarters.

All Cutters are High Speed Steel, carefully hardened.

Cutting-Off Blades (or Cutters) are ground ready for use.

The Threading-Tool Holder is supplied with a Formed Cutter, the point of which is ground to an included angle of 60°. In re-sharpening it is necessary to grind the top edge only.

The Boring-Tool is furnished with Bar 1/4" round by 5" long, with point offset and ground; a 1/4" square turning cutter is also included.

The Knurling-Tool is fitted with "Diamond" pattern Knurls for medium work (21 pitch). Knurls for fine (33 pitch) or coarse (14 pitch) work are available if desired. "Straight Line" Knurls can also be furnished.

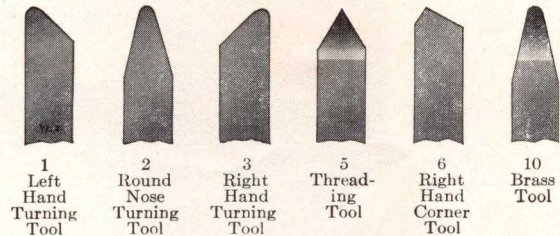
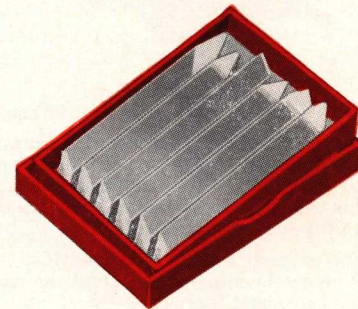
When ordering, please state whether Panel or Case is wanted.

New No.	Old No.	Tool Holder	Size Shank	Cutter; H.S. Steel	Std. Pkg
2010-S	0-S H	Turning—Straight Shank	3/8 x 13/16	1/4 Sq.	1
2010-R	0-R H	Turning—R. H. Offset Shank	3/8 x 13/16	1/4 Sq.	1
2010-L	0-L H	Turning—L. H. Offset Shank	3/8 x 13/16	1/4 Sq.	1
2040	0-K H	Knurling	3/8 x 3/4	*Med.	1
2020-S	N-20-R H	Cut-Off—R. H. Straight Shank	3/8 x 13/16	*2x3/8	1
2020-R	N-30-R H	Cut-Off—R. H. Offset Shank	3/8 x 13/16	*2x3/8	1
2050	C-50H	Threading—with Formed Cutter	3/8 x 3/4	*Formed	1
2030	15 H	Boring—Reversible—R. or L. Hand.	3/8 x 3/4	1/4 Sq. { 1/4 rd.x5	1

\* All finished, ready for use.

WILLIAMS'  
"HOME-CRAFT" FINISHED CUTTERS

High Speed Steel—1/4" Square

1  
Left  
Hand  
Turning  
Tool2  
Round  
Nose  
Turning  
Tool3  
Right  
Hand  
Turning  
Tool5  
Thread-  
ing  
Tool6  
Right  
Hand  
Corner  
Tool10  
Brass  
ToolSET OF 6 CUTTERS  
In Cardboard Box

These ready-to-use "Home-Craft" Cutters are made of High Speed Steel. All are carefully ground to shape and hardened in electric furnaces, with atmosphere, temperature and time under absolute control. Long service is assured.

This Set of 6 Cutters of the forms illustrated cares for practically all lathe needs of school and home workers.

WILLIAMS' "HOME-CRAFT"  
DROP-FORGED LATHE DOGS

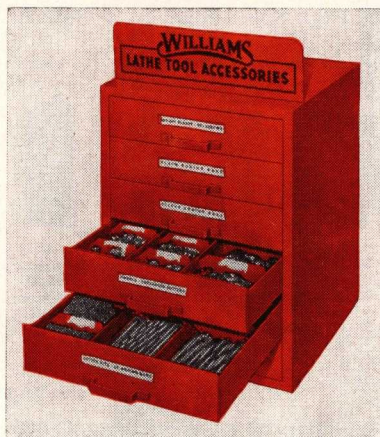
Williams "Home-Craft" Dogs are drop-forged—not cast—and consequently, are light but unusually strong and durable. Made especially for home-craft work; screws are hardened for lasting service.

\* Opening in each Dog is 1/16" over listed "Capacity" to easily accommodate rough or irregular pieces.

Number	*Capacity	Standard Package	Number
72-H	1/2	1	72-H
73-H	3/4	1	73-H
74-H	1	1	74-H
76-H	1 1/2	1	76-H



## WILLIAMS' LATHE TOOL ACCESSORY CABINET



No. THC-1

The assortment of lathe tool accessories contained in this cabinet includes the most-called-for parts in all popular sizes. In addition to providing a convenient method of stocking these parts, this cabinet also acts as an effective display from which many additional sales are made.

The contents of each drawer are identified outside and inside. A label on each compartment gives the name and size of the accessory contained therein.

Cabinet is made of heavy gauge welded steel. Easy sliding drawers have a stop feature which allows the greater part of the drawer to be exposed. Overall cabinet, not including sign measures 18-1/4" high, 14-5/8" wide and 15-5/8" deep.

### CONTENTS

Qty.	Description	Qty.	Description
<b>* CARBIDE TIPPED CUTTER BITS</b>			
3	AR-4 1/4 x1/4 x2 1/4	<b>LIGHT BORING BARS</b>	
3	AL-4 1/4 x1/4 x2 1/4		
3	AR-5 5/16x5/16x2 1/4		
3	AL-5 5/16x5/16x2 1/4		
3	AR-6 3/8 x3/8 x2 1/2		
3	AL-6 3/8 x3/8 x2 1/2		
<b>CUTTING OFF BLADES</b>			
6	3/32 x 5/8"	3	1/8 x 4"
6	1/8 x 3/4"	6	3/16 x 4-1/2"
6	1/8 x 7/8"	6	1/4 x 5"
3	3/16 x 1"	6	5/16 x 6"
		6	3/8 x 7"
		4	7/16 x 8"
<b>FORMED CUTTERS FOR THREADING TOOLS</b>			
2	50	<b>KNURLS</b>	
2	51		
2	52		
1	53		
<b>SLEEVE BARS</b>			
1	1/2"	2 pr.	No. 8227 5/8" Fine Diamond
1	5/8"	2 pr.	No. 8224 5/8" Medium Diamond
1	3/4"	2 pr.	No. 8221 5/8" Coarse Diamond
1	15/16"	2 pr.	No. 8267 5/8" Fine Straight
<b>PLAIN BARS</b>			
1	1/2"	2 pr.	No. 8264 5/8" Medium Straight
1	5/8"	2 pr.	No. 8261 5/8" Coarse Straight
1	3/4"	2 pr.	No. 8228 3/4" Fine Diamond
1	15/16"	2 pr.	No. 8225 3/4" Medium Diamond
		2 pr.	No. 8222 3/4" Coarse Diamond
		2 pr.	No. 8268 3/4" Fine Straight
		2 pr.	No. 8265 3/4" Medium Straight
		2 pr.	No. 8262 3/4" Coarse Straight

\* Orange for Steel.

## WILLIAMS' HIGH SPEED TOOL CUTTERS FOR WILLIAMS' TOOL HOLDERS

Require minimum of grinding only for use in Holders. All Cutters are hardened.

MILITARY DESCRIPTION: MIL-H-912, 00-C-851B

### For Turning Tool Holders

No.	CUTTER, SIZE		Std. Pkg.
	Square	Length	
000	3/16	1 3/4	12
00 & 100	3/16	1 7/8	12
0 & 101	1/4	2 3/8	12
1 & 201	5/16	2 7/8	12
2 & 102	3/8	3 3/8	12
3	7/16	3 3/4	12
4 & 103	1/2	4 1/8	6
5	5/8	4 3/4	6
6	3/4	5 1/2	6

† Cutters of these sizes are also suitable for turning when used in Threading-Tool, Nos. S-50 to S-52.

### For Threading-Tool Holders

No.	CUTTER, SIZE		Std. Pkg.
	Square	Length	
S-50	1/4	2 3/8	12
S-51	5/16	2 7/8	12
S-52	3/8	3 3/8	12

Turning-Tool Cutters marked † are suitable for turning work in Threading-Tool Holders. See table above.

### Bevel For Cutting-Off Tool Holders

Number	Size	Std. Pkg.
19 - 29	3/32 x 1/2	12
20 - 30	3/32 x 5/8	12
21 - 31	1/8 x 3/4	12
22 - 32	1/8 x 7/8	12
23 - 33	3/16 x 1	12
24 - 34	3/16 x 1 1/8	12
25 - 35	1/4 x 1 1/8	12

### For Williams' Boring Bars

Bar Diameter	For Use at Angle of	CUTTER, SIZE		Std. Pkg.
		Square	Length	
1/2	90°	3/16	1	12
	45°	3/16	1 1/2	12
5/8	90°	*3/16	1	12
	45°	3/16	1 1/2	12
3/4	90°	*1/4	1 1/4	12
	45°	1/4	2	12
15/16	90°	*5/16	1 1/2	12
	45°	5/16	2 1/2	12
1 1/8	90°	*3/8	1 7/8	12
	45°	3/8	3	12
1 5/16	90°	3/8	2 1/8	12
	45°	3/8	3 1/4	12
1 1/2	90°	7/16	2 1/4	12
	45°	7/16	3 3/8	12
1 13/16	90°	1/2	2 5/8	12
	45°	1/2	4	12
2 1/4	90°	5/8	3 1/8	12
	45°	5/8	4 3/4	12

\* Cutters of these sizes are also suitable for use with Nos. 46, 47 and 48 Extension Shaper Tools.

### For Planing-Tool Holders

Number	CUTTER, SIZE		Std. Pkg.
	Flat	Length	
40	1/4 x 3/8	2 1/2	12
401	5/16 x 7/16	3	12
41	3/8 x 1/2	3 1/2	12
42	1/2 x 3/4	4 1/4	12
43	5/8 x 7/8	5	6
44	3/4 x 1	6	6
45	7/8 x 1 1/8	7	6

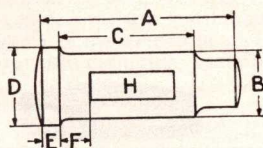
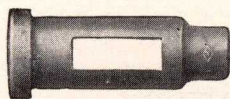
### Heavy Bevel For Side-Tool Holders

Number	Size	Standard Package
19 - 29	1/8 x 1/2	12
20 - 30	5/32 x 5/8	12
21 - 31	3/16 x 3/4	12
22 - 23	1/4 x 7/8	12
23 - 33	5/16 x 1	12
24 - 34	3/8 x 1 1/8	12



WILLIAMS' VULCAN®  
TOOL POST FITTINGS

## TOOL POSTS



UNFINISHED—OPENINGS PUNCHED OUT

Number	5	10	20	23	28	30	40	50	60
Length, A.....	2 1/16	4 1/16	4 3/16	5	5 3/16	5 1/4	6 5/16	7 3/8	8 3/4
Body.....									
Diameter, B....	1 1/32	1 1/4	1 3/8	1 7/16	1 1/2	1 13/16	2 1/16	2 1/4	2 31/32
Length, C.....	2	2 7/8	3 1/4	3 1/2	3 11/16	3 3/4	4 3/8	5	6
Base.....									
Diameter, D...	1 7/32	1 5/8	2 1/8	1 7/8	2 1/16	2 5/16	2 5/8	2 11/16	3 3/8
Thickness, E...	5/16	1/4	3/16	5/16	5/16	1/2	5/16	5/8	3/4
Base to.....									
Opening, F....	7/16	1/2	13/16	5/8	5/8	15/16	1 1/16	1 3/8	1 1/2
Opening.....									
Size, H.....	1 5/16	1 11/16	1 7/8	2 1/2	2 11/16	2 1/2	2 1/2	2 3/8	3 3/16
For use with.....									
Wedge.....	5	10	15 & 18	15	15 & 18	18 & 20	30 & 40	60	
Ring.....	5	10	11	14	18	20	30 & 40	60	
Std. Pkg.....	1	1	1	1	1	1	1	1	1

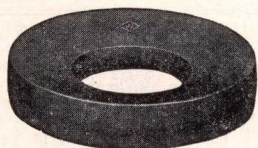
## TOOL POST WEDGES



For Changing Angles of Lathe Tools

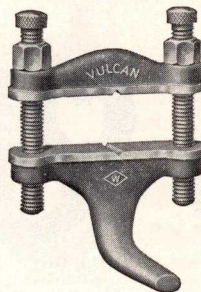
Number	5	10	11	15	18	20	30	40	60	65
Length.....	2 13/32	3	3 3/8	3 3/8	3 7/8	3 7/8	4 3/8	4 7/8	5 1/4	5 5/16
Width—Top.....	1 13/32	3/16	1/2	5/8	1 1/16	1 1/16	3/4	1 1/16	1 5/16	7/8
Width—Extreme...	3/2	2 1/32	1 9/32	2 3/32	3/4	1 1/16	7/8	1 1/16	1 3/32	1 1/32
Extreme Thickness...	1 1/32	3 1/64	2 5/64	3/4	1 1/32	1 1/32	1 1/2	2 1/32	3/4	2 3/32
Radius.....	3	2 7/8	4 5/8	4 5/8	4 1/2	4 3/4	5 1/2	5 3/4	6	5
For Use with Post...	5	10	20	20	30	30	40	40	50	
For Use with Ring...	5	10	11	11	11 & 20	20	30	40	60	
Standard Package...	1	1	1	1	1	1	1	1	1	1

## TOOL POST RINGS



For Changing Angles of Lathe Tools

Number	5	10	11	14	18	20	30	40	60
Diameter, Outside	2 1/4	2 13/16	3	3 3/16	3 3/16	3 1/2	3 1/2	4	4 1/2
Diameter, Hole...	1 1/16	1 1/16	1 3/8	1 1/16	1 1/16	1 3/4	2	2	2 3/16
Thickness, Edge...	3/8	7/16	3/16	5/8	1 1/16	3/8	3/4	3/4	3/4
Radius of Concave	3	2 7/8	4 5/8	4 5/8	4 1/2	4 3/4	5 1/2	5 3/4	6
For Use with Post...	5	10	20	23	28	30	40	40	50
For Use with.....									
Wedge.....	5	10	11 & 15	18 & 20	18	18 & 20	30	40	60
Standard Package...	1	1	1	1	1	1	1	1	1

WILLIAMS' VULCAN®  
DROP-FORGED CLAMP LATHE DOGS

These are drop-forged from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws are made of a special grade of steel and are hardened and tempered. The nuts are case-hardened. Extra Screws and Nuts carried in Stock.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

No.	Capacity		Screws		Standard Package
	Maximum Opening	Distance Between Screws	Diameter	Length Under Head	
61	1 5/8	1 3/4	5/16	2 3/4	1
62	1 7/8	2 1/4	3/8	3 5/16	1
63	2 1/2	2 3/4	7/16	4 1/4	1
64	3 1/4	3 1/2	1/2	5 3/8	1

WILLIAMS' VULCAN®  
DROP-FORGED MILLING MACHINE DOGS

With Flat, Bent Tail

These are designed for taper work carried between centers on milling machines. The flat tail works in the head-slot without the back-lash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Lathe Dog.

The heads are made of sufficient size to permit re-tapping for one or two larger sizes of screws as the threads wear.

The Screws are made of a special grade of steel and are hardened and tempered.



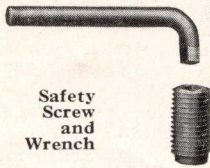
Number	Capacity	Screw		Standard Package
		Diameter	Length Under Head	
42	1/2	3/8	1 1/4	1
43	3/4	7/16	1 5/8	1
44	1	1/2	2	1
45	1 1/4	1/2	2 1/4	1
46	1 1/2	9/16	2 3/8	1
47	1 3/4	5/8	2 1/2	1
48	2	5/8	2 7/8	1



### WILLIAMS' VULCAN® DROP-FORGED LATHE DOGS WITH BENT TAIL



Lathe Dog  
with  
Safety Screw



Safety  
Screw  
and  
Wrench



Lathe Dog  
with  
Sq. Head Screw

The Screws are of special steel, hardened and tempered. They are supplied in two types, Safety and Square Head, which are interchangeable in corresponding Dogs.

When ordering extra Screws, please state whether Safety or Square Head type is wanted: if latter, specify diam. of screw.

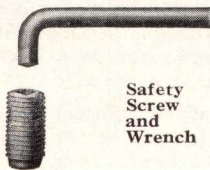
Dogs with Sq. Head Screws will be supplied unless otherwise specified

No.	Capacity	SCREWS				Std. Pkg.
		Square Head		Safety		
		Diam.	Length Under Hd.	Diam.	Extreme Length	
1	3/8	7/16	1	7/16	5/8	1
2	1/2	9/16	1 1/4	9/16	13/16	1
3	3/4	5/8	1 5/8	5/8	1 1/16	1
4	1	5/8	2	5/8	1 1/4	1
5	1 1/4	3/4	2 1/4	3/4	1 3/8	1
6	1 1/2	7/8	2 7/16	7/8	1 11/16	1
7	1 3/4	7/8	2 7/16	7/8	1 11/16	1
8	2	1	2 3/4	1	1 7/8	1
9	2 1/2	1 1/8	3	1 1/8	2	1
10	3	1 1/4	3 1/4	1 1/4	2 1/8	1
11	3 1/2	1 3/8	3 1/2	1 3/8	2 1/2	1
12	4	1 1/2	3 3/4	1 1/2	2 5/8	1
13	5	1 5/8	4 1/2	1 5/8	3 3/8	1

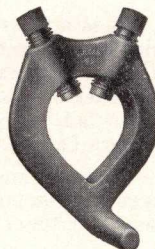
### WILLIAMS' VULCAN® DROP-FORGED HEAVY SERVICE LATHE DOGS WITH BENT TAIL



Heavy Service  
Dog with  
Safety Screws



Safety  
Screw  
and  
Wrench



Heavy Service  
Dog with  
Sq. Head Screws

The Screws are of special steel, hardened and tempered. They are supplied in two types, Safety and Square Head, which are interchangeable in corresponding Dogs.

When ordering extra Screws, please state whether Safety or Square Head type is wanted: if latter, specify diam. of screw.

Dogs with Sq. Head Screws will be supplied unless otherwise specified

No.	Capacity	SCREWS				Std. Pkg.
		Square Head		Safety		
		Diam.	Length Under Hd.	Diam.	Extreme Length	
112	4	1 1/2	3 3/4	1 1/2	2 5/8	1
113	5	1 5/8	4 1/2	1 5/8	3 3/8	1
114	6	1 5/8	4 1/2	1 5/8	3 3/8	1

Unless otherwise specified, a Wrench will be supplied for Dogs with Safety Screws at extra price.

### WILLIAMS' VULCAN® DROP-FORGED STRAP CLAMPS

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

On Planer, Lathe, Drill Press, Milling and Boring Machine work they are time-saving and effective—far more efficient than any make-shift clamp. Because of draft or taper on forgings, minimum dimensions of slot are given.



PLAIN SLOT  
PATTERN

No.	Length	Width		Thickness		Slot; Min. Dim.		Std. Pkg.
		Ends	Center	Ends	Center	Length	Width	
54	4	1 3/16	1 5/8	1/2	3/4	1 3/8	11/16	1
56	6	1 1/4	1 3/4	9/16	7/8	2 1/16	11/16	1
58	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	13/16	1
59	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	15/16	1

### ADJUSTABLE STEP PATTERN



No.	Lgth.	Width		Thickness		Slot; Min. Dimensions		Screws		Standard Package
		Ends	Center	Ends	Center	Lgth.	Width	Diam.	Lgth. Under Head	
54A	4	1 3/16	1 5/8	1/2	3/4	1 3/8	1 1/16	1/2	1 1/4	1
56A	6	1 1/4	1 3/4	9/16	7/8	2 1/16	1 1/16	5/8	1 1/2	1
58A	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	1 3/16	3/4	1 3/4	1
59A	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	1 5/16	7/8	2 1/8	1



GOOSE NECK  
PATTERN

No.	Lgth.	Width		Thickness		Slot; Min. Dimensions		Neck Offset	Std. Pkg.
		Ends	Center	Ends	Center	Length	Width		
74	4	1 3/16	1 5/8	3/8 & 1/2	3/4	15/16	11/16	13/16	1
76	6	1 1/4	1 3/4	7/16 & 9/16	7/8	1 11/16	11/16	15/16	1
78	8	1 1/2	2 1/8	9/16 & 3/4	1 1/8	2 7/16	13/16	1 1/8	1

### FINGER PATTERN SINGLE END



No.	Lgth.	Width		Thickness		Slot; Min. Dimensions		Finger Dimensions	Std. Pkg.
		Flat End	Center	Flat End	Center	Length	Width		
44	4	1 3/16	1 5/8	7/16	3/4	1 3/8	11/16	1/2 x 1/2	1
46	6	1 1/4	1 3/4	1/2	7/8	1 15/16	11/16	5/8 x 5/8	1
48	8	1 1/2	2 1/8	5/8	1 1/8	2 9/16	13/16	3/4 x 3/4	1



FINGER PATTERN  
DOUBLE END

No.	Length	Width Center	Thickness Center	Min. Diameter Hole	Finger Dimensions	Std. Pkg.
30	3	1 1/2	5/8	11/16	1/2 x 1/2	1
35	3 1/2	1 5/8	3/4	11/16	5/8 x 5/8	1
40	4	1 13/16	7/8	13/16	3/4 x 3/4	1

### "U" PATTERN



No.	Length	Max. Width	Thickness	Slot; Min. Dimensions		Finger Dimensions	Std. Pkg.
				Length	Width		
64	4 1/2	1 3/4	3/4	3 1/2	11/16	1/2 x 1/2	1
66	6 5/8	2	7/8	5 1/2	11/16	5/8 x 5/8	1
68	8 3/4	2 1/2	1 1/8	7 3/8	13/16	3/4 x 3/4	1
110	10	2 3/4	1 1/4	9	15/16	15/16 x 15/16	1
112	12	3 1/4	1 3/4	11	1 1/16	1 1/16 x 1 1/16	1

### UNIVERSAL ADJUSTABLE PATTERN



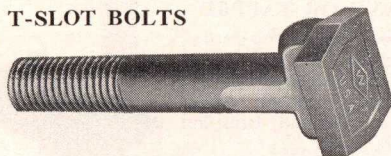
Designed for holding work in planers, boring mills, drill presses, milling machines, etc. Ideal for irregular shapes and varying sizes. Position of the saddle may be changed to maintain vertical, right angle positioning of the tie-bolt.

No.	Length	Width of Clamp	Adjustment	Max. "T" Slot Bolt. Size Inches	Std. Pkg.	Extra Saddles	
						No.	Std. Pkg.
21	5 1/16	1 5/8	2 1/4	5/8	1	21S	1
22	8	2 1/8	4	3/4	1	22S	1
23	12	2 3/4	6 1/4	1	1	23S	1



## WILLIAMS' SET-UP ACCESSORIES

## T-SLOT BOLTS



For setting-up work on planers, shapers, milling machines, etc. Designed to fit T-Slots threaded Unified Coarse ready for use. Will not turn in table or break out table slots.

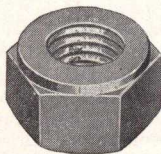
## Lengths Under Head in Inches

3/8"	1/2"	5/8"	3/4"	7/8"	1" T-Slot
T-Slot Size	T-Slot Size	T-Slot Size	T-Slot Size	T-Slot Size	Size
Lgth. Pkg.	Lgth. Pkg.	Lgth. Pkg.	Lgth. Pkg.	Lgth. Pkg.	Lgth. Pkg.
1 1/4 25	1 1/4 25	1 1/4 25	1 1/4 25	1 1/4 25	1 1/4 25
1 1/2 25	1 1/2 25	1 1/2 25	1 1/2 25	1 1/2 25	1 1/2 25
1 3/4 25	1 3/4 25	1 3/4 25	1 3/4 25	1 3/4 25	1 3/4 25
2 25	2 25	2 25	2 25	2 25	2 25
2 1/4 25	2 1/4 25	2 1/4 25	2 1/4 25	2 1/4 25	2 1/4 25
2 1/2 25	2 1/2 25	2 1/2 25	2 1/2 25	2 1/2 25	2 1/2 25
2 3/4 25	2 3/4 25	2 3/4 25	2 3/4 25	2 3/4 25	2 3/4 25
3 25	3 25	3 25	3 25	3 25	3 25
3 1/2 25	3 1/2 25	3 1/2 25	3 1/2 25	3 1/2 25	3 1/2 25
4 25	4 25	4 25	4 25	4 25	4 25
4 1/2 25	4 1/2 25	4 1/2 25	4 1/2 25	4 1/2 25	4 1/2 25
5 25	5 25	5 25	5 25	5 25	5 25
5 1/2 25	5 1/2 25	5 1/2 25	5 1/2 25	5 1/2 25	5 1/2 25
6 25	6 25	6 25	6 25	6 25	6 25
7 25	7 25	7 25	7 25	7 25	7 25
8 25	8 25	8 25	8 25	8 25	8 25
9 25	9 25	9 25	9 25	9 25	9 25
10 25	10 25	10 25	10 25	10 25	10 25
12 25	12 25	12 25	12 25	12 25	12 25
14 25	14 25	14 25	14 25	14 25	14 25
16 25	16 25	16 25	16 25	16 25	16 25
18 25	18 25	18 25	18 25	18 25	18 25
20 25	20 25	20 25	20 25	20 25	20 25
24 25	24 25	24 25	24 25	24 25	24 25
30 25	30 25	30 25	30 25	30 25	30 25

## HEXAGON NUTS FOR T-SLOT BOLTS

Specially designed for use with Williams T-Slot Bolts. Threaded Unified Coarse and case hardened.

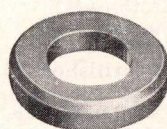
No.	Bolt Dia., In.	Threads Per In.	Thickness, In.	Across Flats, In.	Std. Pkg.
3 HN	3/8	16	7/16	11/16	100
4 HN	1/2	13	5/8	7/8	100
5 HN	5/8	11	3/4	1 1/16	100
6 HN	3/4	10	7/8	1 1/4	100
7 HN	7/8	9	1	1 7/16	50



## FLAT WASHERS FOR T-SLOT BOLTS

Extra thick to resist bending with a beveled edge on one side.

No.	Bolt Dia., Inches	Outside Dia., Inches	Thickness, Inches	Std. Pkg.
3W	3/8	7/8	1/8	100
4W	1/2	1	3/16	100
5W	5/8	1 1/4	1/4	100
6W	3/4	1 1/2	1/4	100
7W	7/8	1 3/4	1/4	25



## T-SLOT NUTS

For setting-up work on planers, shapers, milling machines, etc., where studs are to be used in place of T-Slot Bolts. Threaded Unified Coarse.



No.	T-Slot Size	Stud Diam.	Threads Per Inch				Std. Pkg.
5 TN	5/8	1/2	13	1 1/8	13/32	1 1/4	10
6 TN	3/4	5/8	11	1 5/16	17/32	1 1/2	10
7 TN	7/8	3/4	10	1 1/2	9/16	1 3/4	10
8 TN	1	7/8	9	1 3/4	5/8	2	10
10 TN	1 1/4	1	8	2	7/8	2 3/8	10

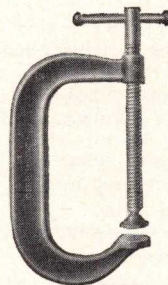
## SET-UP WEDGES

For setting-up work on planers, shapers, milling machines, etc.

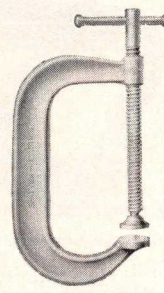
No.	Length	Width	Thick End	Standard Package
3 WG	3	1	1/4	10
5 WG	5	1	1/2	10
6 WG	6	1 1/4	3/4	10



## WILLIAMS' DEEP THROAT PATTERN DROP-FORGED "C" CLAMPS FOR LIGHT DUTY



Standard



Spatter Resisting

Standard Pattern for body-builders, woodworkers and kindred trades. All parts except screws are shot-blasted.

Especially designed for use where the clearance provided by a deep throat is required, as in body building, welding, wood working, etc. Drop-forged from an unusually strong special steel and heat-treated for maximum strength, they combine

dependable strength with minimum weight.

The Screws, fitted with adjustable handle, are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

Spatter Resisting Pattern for welding. Cadmium-plated to resist the adherence of welding spatter.

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Std. Pkg.
	Max.	Min.		Length	Width	Diam.	Length Over All	

## STANDARD PATTERN

MILITARY DESCRIPTION: MIL-C-15768, TYPE I, CLASS I  
GGG-C-406, TYPE I, CLASS A

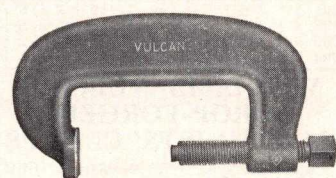
402	2	0	2	4 7/8	3 3/4	1/2	4 3/4	1
403	3	0	2 3/8	6 1/8	4 1/8	1/2	6	1
404	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/8	1
406	6	0	3 5/8	10 1/4	6	5/8	10 1/4	1
408	8	2	4 1/2	12 3/4	7	3/4	10 5/8	1
410	10	3	5 3/8	15 1/4	8 1/8	3/4	11 3/4	1
412	12	4	5 3/4	18	9 3/8	7/8	13	1

## SPATTER RESISTING PATTERN

402-S	2	0	2	4 7/8	3 3/4	1/2	4 3/4	1
403-S	3	0	2 3/8	6 1/8	4 1/8	1/2	6	1
404-S	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/8	1
406-S	6	0	3 5/8	10 1/4	6	5/8	10 1/4	1
408-S	8	2	4 1/2	12 3/4	7	3/4	10 5/8	1
410-S	10	3	5 3/8	15 1/4	8 1/8	3/4	11 3/4	1
412-S	12	4	5 3/4	18	9 3/8	7/8	13	1

## WILLIAMS' VULCAN® DROP-FORGED HEAVY SERVICE "C" CLAMPS

These are drop-forged from a strong, tough grade of carefully selected steel. Specially heat-treated to increase further their strength and reduce the liability of springing, they are the strongest "C" Clamps on the market.



The Screws are made of a special grade of steel and are hardened and tempered. With Long Screws the minimum capacity of all Clamps will be 0.

Standard Screws furnished, unless otherwise specified.

MILITARY DESCRIPTION: MIL-C-15768, TYPE I, CLASS 3  
GGG-C-406, TYPE I, CLASS D

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Standard Screw		Std. Pkg.
	Max.	Min. With Std. Screw		Lgth.	Width	Diam.	Lgth. Under Head	

0	3/4	0	3/4	2 1/4	2	5/16	1 1/2	1
1	1 1/4	0	1 1/8	3 1/4	2 3/4	3/8	2 1/4	1
1 1/2	1 3/4	11/16	1 1/2	4 1/4	3 5/8	1/2	2 1/4	1
2	2 1/4	7/8	1 3/4	5 1/2	4 1/2	5/8	2 7/8	1
3	3 1/4	1 5/16	2 3/8	7 1/4	5 3/4	3/4	3 3/4	1
4	4 1/2	2	2 3/4	8 7/8	6 1/2	7/8	4 1/2	1
5	5 1/2	2 1/2	3 1/8	10 3/8	7	7/8	5 3/8	1
6	6 1/2	3 1/16	3 3/8	12	7 7/8	1	5 7/8	1
8	8 1/2	4 1/4	3 3/4	14 3/8	8 1/2	1 1/8	7	1
10	10 1/2	6 3/8	4 1/8	16 7/8	9	1 1/8	7	1
12	12 1/2	7 5/8	4 1/2	19 3/8	9 3/4	1 1/4	8	1



## WILLIAMS' AGRIPPA® DROP-FORGED GENERAL SERVICE "C" CLAMPS



Drop-forged from a special grade of strong, tough steel. Heat-treated after forging to reduce the liability of springing.

The Screws, fitted with adjustable handle, are made of special steel, hardened and tempered.

The Swivels are drop-forged.

MILITARY DESCRIPTION: MIL-C-15768, TYPE I, CLASS 2  
GGG-C-406, TYPE I, CLASS B

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Std. Pkg.
	Max.	Min.		Length	Width	Diam.	Length under Head inc. Swivel	
102	2	0	1 1/2	5 7/8	3 1/2	1/2	4	1
103	3	0	2	6 7/8	4 3/8	5/8	5 5/8	1
104	4	0	2 3/8	8 1/4	5 1/8	3/4	6 7/8	1
106	6	2	2 1/2	10 3/8	5 3/8	3/4	6 7/8	1
108	8	4	2 5/8	12 1/2	5 1/2	3/4	6 7/8	1
110	10	6	2 3/4	14 5/8	5 3/4	3/4	6 7/8	1
112	12	8	2 7/8	16 7/8	6	3/4	6 7/8	1
115	15	10	3 1/16	20 1/4	6 1/2	7/8	8 1/8	1
118	18	13	3 1/4	23 1/2	7	7/8	8 1/8	1

## WILLIAMS' VULCAN® DROP-FORGED TOOL-MAKERS "C" CLAMPS



With Plain Screw



With Swivel Screw

Drop-forged from a strong, tough grade of steel. Heat-treated after forging to reduce the liability of springing.

The Screws, with wings formed to permit use of lever, are supplied in two styles—Swivel and Plain. They are drop-forged from a special grade of steel, hardened and tempered. Clamps with Swivel Screw will be furnished unless otherwise specified.

No.	Capacity		Depth of Throat	Extreme Dimensions		Screw		Std. Pkg.
	Max.	Min.		Lgth.	Width	Diam.	Length	
WITH PLAIN SCREW								
201	1	0	11/16	2 1/8	1 1/2	5/16	1 11/16	1
202	2	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	1
203	3	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	1
204	4 1/4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	1
WITH SWIVEL SCREW								
201	3/4	0	11/16	2 1/8	1 1/2	5/16	1 11/16	1
202	1 3/4	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	1
203	2 3/4	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	1
204	4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	1

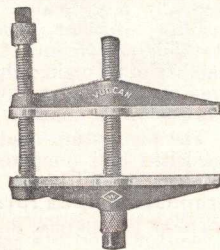
## WILLIAMS' VULCAN® DROP-FORGED MACHINISTS' CLAMPS

Drop-forged from a strong, tough grade of carefully selected steel; all are heat-treated to increase still further their strength and to reduce the liability of springing.

The knurled portion of the hardened and tempered Screws permits rapid and easy adjustment.

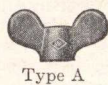
The edges of the jaws are ground bright, thus adding to the appearance of the Clamp. When ordering extra Screws specify whether for end or center; lengths given are under-head dimensions and prices are for each of either screw.

MILITARY DESCRIPTION: MIL-C-15768, TYPE II, CLASS I  
GGG-C-406, TYPE II, CLASS A



No.	Capacity		Screws				Std. Pkg.
	Maximum Opening	Length Jaw from Screw	End		Center		
			Diam.	Length	Diam.	Length	
301	1 1/4	1 3/4	5/16	2 1/8	5/16	2 5/8	1
302	2 1/4	2 1/4	3/8	3 1/4	3/8	3 15/16	1
303	3 1/4	2 3/4	7/16	4 5/8	7/16	5 1/4	1
304	4 1/4	3 1/4	1/2	5 3/4	1/2	6 1/2	1

## WILLIAMS' DROP-FORGED THUMB NUTS BLANK OR TAPPED



Type A



Type B

These are drop-forged from a fine grade of steel that drills and taps readily; they are furnished either Blank or Tapped, tumbled smooth.

Nuts tapped Unified Class 2B threads in stock in all sizes. Other threads to order. Unless otherwise

specified, orders for Tapped Nuts will be supplied with Unified Class 2B threads.

Tapped Nuts have base faced at right angle to hole.

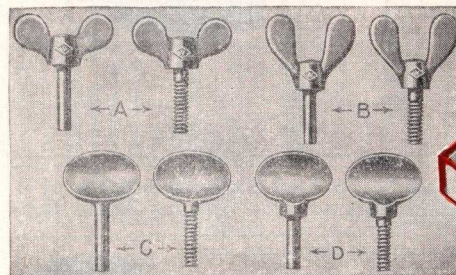
Special sizes and shapes and Tobin Bronze Nuts to order.

When tapping is ordered, Class 2B is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. When ordering indicate pattern (A or B) by letter.

Tapped Thumb Nuts will be furnished, unless otherwise specified

For Bolt, Size.....	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
Threads per Inch.....	40	24	20	18	16	14	13	12	11	10
Extreme Width across Wings.....	3/4	15/16	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
Type A.....	25/32	1	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
Type B.....	25/32	1	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
Diameter, Top of Barrel.....	1/4	5/16	3/8	7/16	17/32	5/8	21/32	3/4	13/16	15/16
Standard Package.....	100	100	100	100	100	25	25	25	25	25

## WILLIAMS' DROP-FORGED THUMB SCREWS All Types Furnished, Either Blank or Threaded



Drop-forged from a fine grade of steel that threads readily and tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order. Lengths, longer than those listed, can be furnished specially from available dies; intermediate lengths take price of next longer length.

Screws with Unified Class 2A threads in stock in all sizes. Whitworth Standard supplied at regular prices; other threading to order. Unless otherwise specified, Threaded Screws will be furnished with Unified Class 2A threads.

Screws with special points can be supplied to order.

When ordering indicate pattern by letter.

When threading is ordered, Class 2A is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. Threaded Thumb Screws will be furnished unless otherwise specified

Width of Head	Diameter Screw and Threads per Inch † Type C only; D not made									
	1/8 40	3/16 24	1/4 20	5/16 18	3/8 16	7/16 14	1/2 13	9/16 12	5/8 11	3/4 10
Type A	3/4	15/16	1 1/8	1 1/4	1 1/2	2	2 1/4	2 1/2	2 3/4	3
Type B	25/32	1	1 1/8	1 1/4	1 1/2	2	2 1/4	2 1/2	2 3/4	3
C-D	19/32	27/32	1	1 1/8	1 1/4	1 1/2	2	2 1/4	2 1/2	2 3/4
Std. Pkg.	100	100	100	100	100	25	25	25	25	25

\* Standard Length Under Head in Stock—Blank or Threaded.

1/4	*	*	*	*	*	*	*	*	*	*
1/2	*	*	*	*	*	*	*	*	*	*
3/4	*	*	*	*	*	*	*	*	*	*
1	*	*	*	*	*	*	*	*	*	*
1 1/4	*	*	*	*	*	*	*	*	*	*
1 1/2	*	*	*	*	*	*	*	*	*	*
1 3/4	*	*	*	*	*	*	*	*	*	*
2	*	*	*	*	*	*	*	*	*	*
2 1/4	*	*	*	*	*	*	*	*	*	*
2 1/2	*	*	*	*	*	*	*	*	*	*
2 3/4	*	*	*	*	*	*	*	*	*	*
3	*	*	*	*	*	*	*	*	*	*
3 1/2	*	*	*	*	*	*	*	*	*	*
4	*	*	*	*	*	*	*	*	*	*



## WILLIAMS' VULCAN® DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

**Improved Design.** Recent improvements in material and design have been made throughout the entire line of Williams Drop-Forged Hoist Hooks. Strength has been greatly increased and capacity ranges extended.

Hooks of old design (listed in tables below in Red) will be supplied until stock is exhausted.

**Heat-Treating.** After forging, every "Vulcan" Hook is accurately heat-treated for maximum strength and toughness—the liability of breakage is reduced to the minimum.

**Proof-Testing.** To insure proper service at listed capacity every hook, after heat-treatment is proof-tested on a standard tension machine to fifty per cent beyond its rated "Safe Working Load." Each hook so tested is stamped **O**, as illustrated, and hence can be readily identified as "proof-tested."

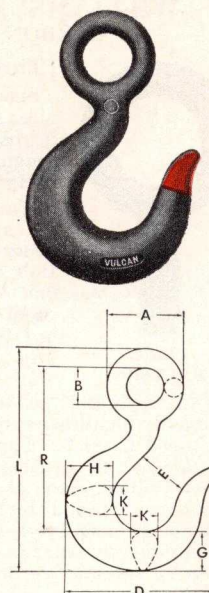
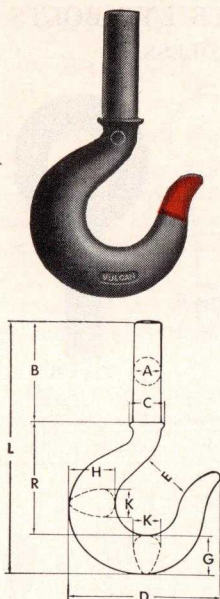
**Use the Hook with the orange tip**—no other standard line offers such assurance of safety and care in manufacture.

Hooks made of Special Steels, Tobin Bronze or other Non-Ferrous Metals from standard or special dies to order in quantities; prices on application.

† Shanks of Nos. 13, 14, 15, 15A, 16 and 16A can be made longer if desired at an additional charge per extra inch or fraction thereof.

‡ 15A, 16A and 36A Hooks are made from special alloy steel; others from carbon steel.

\* Hook shanks, Nos. 2 to 12, are 1/16" to 3/32" larger to allow for machining; Nos. 13 to 16 are rough machined plus or minus 1/64".



No.	Capacity Tons of 2000 lbs.			Capacity—Chain and/or Wire Rope				Dimensions										Std. Pkg.
	Safe Working Load	Average Load or Elastic Limit	Approx. Load to Straighten Out	Chain Size	Rope Size	Plow Steel	Im- proved Plow	*A	B	C	D	E	G	H	K	R	L	
				Proof Coil	BBB													
SHANK PATTERN																		
2	.5	1.7	2.3	3/16-1/4	3/16-1/4	1/4	1/4	* 1/2	2	11/16	2 7/8	1	3/4	13/16	1/2	2 1/4	5 1/32	1
3	.6	1.2	2.2	1/4	1/4	1/4	1/4	* 9/16	2 1/4	3/4	3 1/8	1 1/16	13/16	7/8	9/16	2 7/16	5 1/2	1
4	.7	2.1	2.8	5/16	5/16	5/16	5/16	* 9/16	2 1/4	3/4	3 3/16	1 1/16	27/32	1	5/8	2 7/16	5 17/32	1
5	.85	2.7	3.7	5/16	5/16	5/16	5/16	* 5/8	2 1/2	7/8	3 9/16	1 1/8	1	1 1/8	11/16	2 5/8	6 1/8	1
6	1.5	5	7.1	3/8-7/16	3/8	3/8	3/8	* 3/4	2 3/4	1	4	1 1/4	1 5/32	1 11/32	27/32	2 15/16	6 27/32	1
7	2.1	6.2	8.7	1/2-9/16	7/16-1/2	1/2	7/16	* 7/8	3	1 5/32	4 9/16	1 3/8	1 11/16	1 9/16	31/32	3 1/4	7 5/8	1
8	2.6	7	10.6	5/8	9/16	1/2	9/16	* 1	3 1/4	1 5/16	5 1/16	1 1/2	1 1/2	1 25/32	1 1/8	3 5/8	8 3/8	1
9	3.1	9	12.5	5/8	5/8	5/8	9/16	* 1 1/8	3 1/2	1 7/16	5 7/8	1 3/4	1 11/16	2	1 1/4	4 5/8	9 5/16	1
10	3.7	6.2	13	5/8	5/8	5/8	9/16	* 1 1/4	3 3/4	1 19/32	6 3/8	1 7/8	1 25/32	1 15/16	1 1/4	4 5/8	10 1/4	1
11	4.7	9	19	3/4	3/4	3/4	1	* 1 1/2	4 1/4	1 15/16	7 1/2	2 1/4	1 31/32	2 5/16	1 1/2	5 5/8	12	1
12	5.8	14	23.7	7/8	7/8	7/8	1	* 1 1/2	4 1/4	1 15/16	7 1/2	2 1/4	2 7/32	2 5/8	1 21/32	5 5/8	12 3/32	1
13	6.8	21.1	32.5	1	7/8	7/8	1	* 1 5/8	4 1/2	2 1/8	8 9/16	2 1/2	2 17/32	2 31/32	1 13/16	6 1/8	13 5/32	1
14	8.5	24	40	1 1/8	1	1	1	1 3/4	5	2 1/4	9 1/4	3	2 17/32	2 15/16	1 3/4	6 3/4	14 1/2	1
15	10.6	28.4	47	1 1/4	1 1/8	1 1/8	1 1/8	2	5 1/2	2 9/16	11 7/16	3 3/8	3 7/32	3 13/16	2 7/32	7 9/16	16 9/32	1
16	15	48	79.5	1 1/2	1 3/8	1 3/8	1 3/8	2 3/8	6	3	13 7/8	4	4 3/16	4 15/16	2 5/8	8 1/2	18 11/16	1
16A	25	60	100	1 1/2	1 3/8	1 3/8	1 3/8	2 3/4	7	3 1/2	15 5/8	4 1/2	4 13/16	5 21/32	3 1/16	9 7/8	21 11/16	1

## EYE PATTERN — WELDLESS

MILITARY DESCRIPTION: RR-C-271, TYPE C, CLASS D

22	.6	1.7	2.3	3/16-1/4	3/16-1/4	1/4	1/4	1 1/2	3/4	3	1	25/32	15/16	9/16	3 1/4	4 13/32	1
23	.6	1.2	2.3	1/4	1/4	1/4	1/4	1 3/4	7/8	3 1/8	1 1/16	13/16	7/8	5/8	3 5/8	4 7/8	1
24	.7	2.1	2.8	5/16	5/16	5/16	5/16	1 3/4	7/8	3 3/16	1 1/16	27/32	1	5/8	4	4 29/32	1
25	.85	2.7	3.7	5/16	5/16	5/16	5/16	2	1	3 1/2	1 1/8	7/8	1	5/8	4	5 3/8	1
26	1.2	5	7.1	3/8-7/16	3/8	3/8	3/8	2 1/4	1 1/8	3 9/16	1 1/8	1	1 1/8	11/16	4	5 15/32	1
27	1.5	5	7.1	3/8-7/16	3/8	3/8	3/8	2 1/4	1 1/8	4	1 1/4	1 5/32	1 11/32	27/32	4 1/2	6 7/32	1
28	1.7	3.5	7	1/2-9/16	7/16-1/2	1/2	7/16	2 1/2	1 1/4	4 3/8	1 3/8	1 3/16	1 3/8	31/32	5	6 13/16	1
29	2.1	6.2	8.7	5/8	9/16	1/2	9/16	2 3/4	1 3/8	4 7/8	1 1/2	1 3/8	1 9/16	1	5 9/16	7 5/8	1
30	2.6	7	10.6	5/8	5/8	5/8	9/16	2 3/4	1 3/8	5 1/16	1 1/2	1 3/8	1 25/32	1 1/8	5 9/16	7 3/4	1
31	2.5	5.4	10	5/8	5/8	5/8	9/16	3	1 1/2	5 5/8	1 3/4	1 17/32	1 3/4	1 1/8	6 1/4	8 9/16	1
32	3.1	9	12.5	5/8	5/8	5/8	9/16	3 1/8	1 1/2	5 7/8	1 3/4	1 11/16	2	1 1/4	6 1/4	8 11/16	1
33	3.7	9.7	16.2	3/4	3/4	3/4	1	3 3/8	1 5/8	6 1/2	1 7/8	2 1/16	2 1/32	1 3/8	6 15/16	9 5/8	1
34	5	11.8	21.2	7/8	7/8	7/8	1	3 5/8	1 3/4	7 3/16	2 1/16	2 1/32	2 13/32	1 17/32	7 5/8	10 17/32	1
35	5.8	14	23.7	1	7/8	7/8	1	4 1/4	2	7 11/16	2 1/4	2 7/32	2 5/8	1 21/32	8 1/2	11 23/32	1
36	6.8	21.1	32.5	1 1/8	1 1/8	1 1/8	1 1/8	4 7/8	2 3/8	8 9/16	2 1/2	2 17/32	2 31/32	1 13/16	9 7/16	13 3/32	1
37	8.5	24	40	1 1/4	1 1/4	1 1/4	1 1/4	5 1/4	2 3/4	9 1/4	3	2 17/32	2 15/16	1 3/4	10 3/4	14 9/16	1
38	10.6	28.4	47	1 1/2	1 1/2	1 1/2	1 1/2	5 1/2	2 3/4	9 9/16	3	2 25/32	3 9/32	1 15/16	10 3/4	14 25/32	1
39	11	21	48	1 1/2	1 1/2	1 1/2	1 1/2	6 1/8	3 1/8	11 7/16	3 3/8	3 7/32	3 13/16	2 7/32	12 5/16	16 29/32	1
40	15	48	79.5	1 1/2	1 1/2	1 1/2	1 1/2	7	3 1/2	13 1/2	4	4 3/16	4 15/16	2 5/8	14	19 1/16	1
41	20	60	100	1 1/2	1 1/2	1 1/2	1 1/2	8 1/2	4	15 5/8	4 1/2	4 13/16	5 21/32	3 1/16	15 7/8	22 1/2	1
42	25	80	130	1 1/2	1 1/2	1 1/2	1 1/2	8 1/2	4	15 5/8	4 1/2	4 13/16	5 21/32	3 1/16	15 7/8	22 1/2	1
43	30	100	150	1 1/2	1 1/2	1 1/2	1 1/2	8 1/2	4	15 5/8	4 1/2	4 13/16	5 21/32	3 1/16	15 7/8	22 1/2	1




WILLIAMS' VULCAN® EYE BOLTS  
CARBON STEEL—WELDLESSPLAIN  
PATTERN

## Threaded or Blank

Specially heat-treated, after forging, to further increase strength and toughness and reduce liability of breakage.

To insure proper service at listed capacity, every "Vulcan" Eye Bolt, after heat-treatment, and before threading, is proof-tested on a standard tension machine to fifty per cent beyond its "Safe Working Load."

SHOULDER  
PATTERN

Each Eye Bolt so tested is stamped  and hence can be readily identified as "proof-tested."

Unified Class 2A Threaded Eye Bolts of Standard length are in stock in all sizes; threaded prices are for these with either Unified Class 2A or Whitworth Std. Threads; longer lengths and special threads extra.

Tobin Bronze Eye Bolts for marine work from standard or special dies to order in quantities; prices on request. Prices given for special Eye Bolts on receipt of drawings, or models and specifications.

On standard length Threaded Eye Bolts of Shoulder Pattern the thread runs within 1/8" (No. 21) to 3/4" (No. 36) of shoulder, which is faced.

Prices for either Plain, or Shoulder Eye Bolts of "Extra Length" apply only to forgings which may be in stock at time ordered. Price on special length Blank or Threaded Eye Bolts on application.

To determine Price for Threaded Eye Bolts other than standard Length:—  
1. Determine price of Blank (see A, B and C in Price Sheet).  
2. Add for threading (see D).

3. If quantity is less than 100 of same pattern and shank diameter, shorter or longer than standard, add \$4.00 NET for the lot to cover "set-up" charge.

Shorter lengths than standard take Standard Threaded List, plus "set-up" charge, if any.

Example:—50 No. 28—8" long, Threaded 3"

Blank—Std. Length 2".....(A).....\$ .80

Extra to Max. 5".....(B)......63

Additional 3" @ 31c.....(C)......93

Threading—3" @ 20c.....(D)......60

LIST PRICE, Each.....\$2.96

"Set-Up" NET charge, \$4.00 extra for the lot.

When ordering, please state whether Threaded or Blank are desired; Threaded will be supplied, unless otherwise specified.

No.	Shank			Diameter Eye		Capacity Blanks; Tons of 2000 lbs.		Std. Pkg.
	Diam., Nominal	Standard Lengths*	Lengths available under Stock;	Inside	Outside	Safe Working Load	Breaking Strain, Approx.	

## PLAIN PATTERN

1	1/4	1 1/8	1 1/8	3/4	1 3/16	.2	1.5	1
2	5/16	1 1/8	1 1/8	7/8	1 7/16	.4	2.	1
3	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	1
4	7/16	1 3/8	4 1/2	1 3/32	1 27/32	1.	4.	1
5	1/2	1 1/2	4 1/2	1 3/16	2 1/16	1.3	5.	1
6	9/16	1 5/8	4 1/2	1 9/32	2 9/32	1.5	6.	1
7	5/8	1 3/4	4 1/2	1 3/8	2 1/2	2.	8.	1
8	3/4	2	5	1 1/2	2 13/16	3.	12.	1
9	7/8	2 1/4	5	1 11/16	3 1/4	3.5	16.	1
10	1	2 1/2	5	1 13/16	3 9/16	4.	20.	1
11	1 1/8	2 3/4	5	2	4	5.	23.	1
12	1 1/4	3	6	2 3/16	4 7/16	7.5	33.	1
14	1 1/2	3 1/2	6	2 1/2	5 3/16	9.	42.	1
15	1 3/4	3 3/4	6	2 7/8	6 1/16	11.	53.	1
16	2	4	6	3 1/4	6 7/8	13.	68.	1
17	2 1/2	5	6	4	8 9/16	16.	85.	1

## SHOULDER PATTERN

21	1/4	1	3	3/4	1 3/16	.2	1.5	1
22	5/16	1 1/8	4	7/8	1 7/16	.4	2.	1
23	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	1
24	7/16	1 3/8	4 1/2	1 3/32	1 27/32	1.	4.	1
25	1/2	1 1/2	4 1/2	1 3/16	2 1/16	1.3	5.	1
26	9/16	1 5/8	4 1/2	1 9/32	2 9/32	1.5	6.	1
27	5/8	1 3/4	4 1/2	1 3/8	2 1/2	2.	8.	1
28	3/4	2	5	1 1/2	2 13/16	3.	12.	1
29	7/8	2 1/4	5	1 11/16	3 1/4	3.5	16.	1
30	1	2 1/2	5	1 13/16	3 9/16	4.	20.	1
31	1 1/8	2 3/4	5	2	4	5.	23.	1
32	1 1/4	3	6	2 3/16	4 7/16	7.5	33.	1
34	1 1/2	3 1/2	6	2 1/2	5 3/16	9.	42.	1
35	1 3/4	3 3/4	6	2 7/8	6 1/16	11.	53.	1
36	2	4	6	3 1/4	6 7/8	13.	68.	1

WILLIAMS' MISCELLANEOUS EYE BOLTS  
CARBON STEEL—WELDLESS

Type A

These are furnished in two styles or types, A and B, and are carried in stock with shanks blank (not threaded), but will be supplied threaded to order at extra charge.

Full size drawings will be sent on request.

Type B  
Nos. 17,  
25, 30, 35

Type B

Type	No.	Shank		Diameter Eye		Std. Pkg.
		Diameter	Length	Inside	Outside	
A	1	1/4	*3/4	3/8	3/4	1
	10	3/8	3	3/4	1 3/8	1
	12	3/8	3	3/8	1	1
A	11	7/16	2 3/16	1 7/32	2 7/32	1
	13	7/16	2 3/4	5/8	1 3/8	1
	14	15/32	1 5/8	1/2	1 1/4	1
A	15	1/2	2	9/16	1 1/4	1
	16	1/2	3/4	1 3/8	2 3/8	1
	17	1/2	4	1	1 3/4	1
A	20	9/16	2	5/8	1 1/2	1
	25	5/8	1 3/4	7/8	1 5/8	1
	26	5/8	*1 3/4	1 1/8	2	1
A	40	13/16	3 1/4	3/4	2 1/8	1
	55	1	1 5/16	7/8	2 3/8	1
	58	1 1/16	4 1/8	1 1/8	2 7/8	1
B	1	1/4	1/2	3/8	3/4	1
	4	5/16	3	5/16	15/16	1
	5	3/8	6	1/2	1 1/8	1
B	10	7/16	1 1/8	1	1 3/4	1
	15	1/2	*1 1/2	13/16	1 13/16	1
	16	1/2	3 1/4	7/16	1 7/16	1
B	17	1 1/2	1 3/4	1/2	1 1/8	1
	25	5/8	2 3/8	1/2	1 1/4	1
	26	5/8	2 3/4	11/16	1 11/16	1
B	27	5/8	3/4	1 1/2	2 1/2	1
	30	11/16	2 1/2	9/16	1 7/16	1
	35	13/4	2 3/4	5/8	1 5/8	1
B	45	7/8	4 1/8	1 1/8	2 3/8	1
	50	15/16	*5	1 1/8	2 3/8	1
	55	1	2 3/4	3/4	2	1

† Shanks of B-17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8 inch in diameter for 3/4, 1-1/2 and 1-1/8 inch from end respectively, as illustrated above.

\* Also carried in stock in the following maximum lengths:—No. A-1, 3"; No. A-26, 4-1/2"; No. B-15, 4-1/2"; No. B-50, 8".

WILLIAMS' VULCAN®  
MACHINE HANDLE FORGINGS

UNFINISHED  
With Smooth, Planished Surface

## BALL PATTERN



Number	00	0	1	2	3	4	5	6	7
Extreme Length	2	2 1/4	2 3/4	3 1/4	3 7/8	4 1/2	5 1/8	5 7/8	6 5/8
Std. Lgth., Shank	1 1/2	1 3/4	1 5/8	1 3/4	1 7/8	1 1/2	1 1/4	1 1/4	1 1/4
Diam., Shank	5/16	11/32	13/32	15/32	15/32	17/32	19/32	11/16	3/4
Std. Package	1	1	1	1	1	1	1	1	1

## CONE PATTERN



Number	11	13	15	16
Extreme Length	3 1/2	4 1/2	5 1/2	6
Standard Length, Shank	1/2	3/4	7/8	1 1/8
Diameter, Shank	3/8	7/16	1/2	9/16
Standard Package	1	1	1	1



## WILLIAMS' VULCAN® DROP-FORGED BALANCE AND CRANK HANDLES

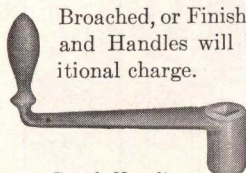
Unfinished are plain forgings without hole in hub.

Broached, available in Crank Handles only, have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

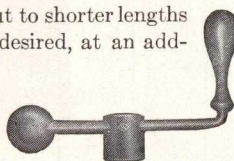
Finished are broached, counterbored in free end of hub, ground, polished, case-hardened all over and gray enameled.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Smaller openings than standard and special sizes, can be broached to order at extra cost. Hubs of Broached, or Finished can be cut to shorter lengths and Handles will be offset if desired, at an additional charge.



Crank Handle



Balance Handle

No.	Length			Hub		Square Hole, Size Broached		Ball, Diam.	Std. Pkg.
	C Hub to C Handle	Ex- treme	Handle Above Arm	Diam.	Lgth.	Std. in Stock	Max. to Order		
BALANCE HANDLES									
512	1 1/4	3 5/16	1 15/16	7/8	3/4	7/16	1/2	7/8	1
516	1 5/8	4	2 1/4	7/8	7/8	7/16	1/2	1 1/4	1
‡520	2	5	2 5/8	1	15/16	1/2	5/8	1 1/4	1
‡522	2 1/4	5 1/2	2 3/4	1 1/4	1	1/2	13/16	1 3/8	1
‡525	2 1/2	6	2 13/16	1 1/4	1 1/8	5/8	13/16	1 7/16	1
529	2 7/8	7	3 5/16	1 1/4	1 1/4	5/8	13/16	1 1/2	1
434	3 3/8	8	3 7/16	‡1 1/2	7/8	5/8	3/4	1 3/4	1
439	3 7/8	9	3 1/2	‡1 5/8	1 1/16	5/8	3/4	1 3/4	1

‡ Handle cone-shaped; see Crank Handle cut above.

‡ Hub is a sphere, flattened on top and bottom; full size drawing on request.

<b>CRANK HANDLES</b>									
00	1 3/4	2 5/8	2 3/8	1	1 1/4	1/2	5/8	.....	1
0	2 1/4	3 1/8	2 1/2	1	1 1/4	1/2	5/8	.....	1
1	3	4	2 3/4	1 1/4	1 1/2	9/16	13/16	.....	1
2	3 1/2	4 1/2	2 7/8	1 1/16	1 5/16	1/2	5/8	.....	1
4	4	5 1/8	3 1/8	1 1/4	1 3/8	9/16	13/16	.....	1
6	5	6 1/8	3 1/8	1 1/4	1 13/16	5/8	13/16	.....	1
8	6	7 1/8	3 1/8	1 1/4	1 15/16	11/16	13/16	.....	1
10	7	8 1/4	3 3/8	1 3/8	2 1/16	3/4	7/8	.....	1
12	8	9 3/8	3 5/8	1 9/16	2 7/16	7/8	1	.....	1
14	9 1/8	10 1/2	3 3/4	1 1/2	2 1/2	7/8	1	.....	1
16	10	11 1/2	4	1 3/4	3	1	1 1/8	.....	1

## WILLIAMS' DROP-FORGED ROD ENDS UNFINISHED



Drop-forged from mild steel which welds easily.

Dimensions show sizes of unfinished forgings. Prices will be given for special forms on receipt of models or drawings and specifications stating quantity required.

No.	Shank		Head		Standard Package
	Diameter	Standard Length under Head	Diameter	Thickness	
0B	3/16	4 13/16	3/8	1/4	1
1C	1/4	*5	5/8	1/4	1
1D	1/4	*2 3/8	7/16	1/4	1
2A	5/16	*3 3/4	3/4	7/16	1
2B	5/16	3 1/8	3/4	5/16	1
2C	5/16	5 3/4	3/4	3/8	1
2D	5/16	1 1/4	13/16	3/8	1
3A	3/8	*2	1	3/8	1
3C	3/8	*3 1/2	13/16	3/8	1
3E	3/8	3 1/8	5/8	5/8	1
3F	3/8	1 1/8	3/4	3/8	1
3G	3/8	1 7/16	5/8	3/8	1
3H	3/8	1 5/8	3/4	3/8	1
3J	3/8	3 1/16	7/8	3/8	1
4B	7/16	*4 1/2	15/16	5/8	1
5A	1/2	*4 3/8	(a) 1	1/2	1
5C	1/2	3 1/16	7/8	7/16	1
5D	1/2	*2 7/8	(b) 3/4	13/16	1
5E	1/2	*2 1/8	1 1/16	9/16	1
5F	1/2	2 1/16	13/16	11/32	1
7A	5/8	*2 3/8	1 1/8	15/32	1
7B	5/8	*4 7/8	1 1/4	19/32	1
7D	5/8	*7 1/2	1 5/32	21/32	1
7E	5/8	*5 7/8	(c) 1 1/8	1 1/16	1
7F	5/8	*4 1/2	1 7/16	11/16	1
7G	5/8	2 5/16	1	7/16	1
9A	3/4	*3 7/8	1 3/4	5/8	1
9B	3/4	*4	1 1/2	13/16	1
9C	3/4	*4 3/8	1 1/8	3/4	1
11A	7/8	*3 1/2	1 1/2	1 1/16	1
11B	7/8	*4	2	15/16	1
13B	1	*3 1/2	1 5/8	1 1/2	1
13C	1	*3 1/2	1 15/32	1 1/8	1
14A	1 1/16	*5 3/4	2 1/16	1 1/8	1
15B	1 1/8	*6	2 1/4	1 1/4	1
17A	1 1/4	*6	2 5/16	1 1/2	1

\* Can be furnished longer if desired.

Largest Diameter Head (a) 1-1/4"; (b) 1-1/8"; (c) 1-9/16".



## COMPARISON CHART

New and Old American Standard Square and Hexagon Bolts and Nuts  
as related to nominal wrench openings

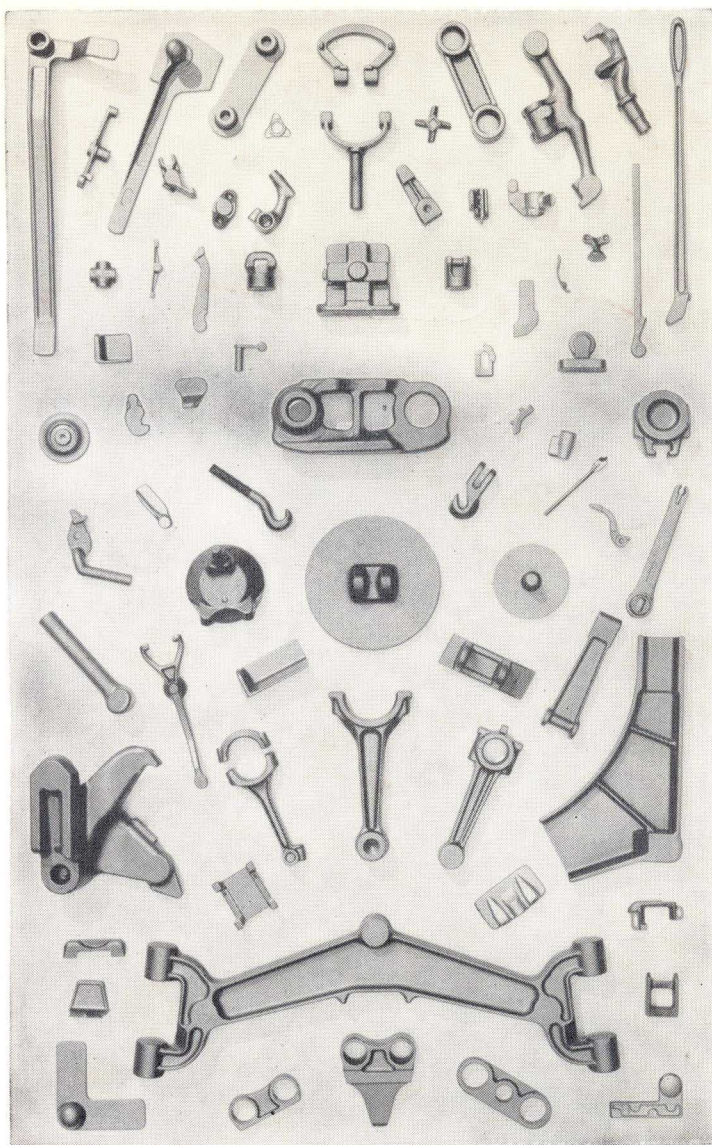
Nominal Wrench Opening	REGULAR SERIES				HEAVY SERIES				LIGHT SERIES		FINISHED SERIES		For Hex Head CAP SCREWS Diam. Screws		For SET SCREWS Diam. Screws	For Mach. Screw Nuts and Stove Bolt Nuts
	For Nuts Size Bolts	For Nuts Size Bolts	For Bolts Diam.	For Bolts Diam.	For Nuts Size Bolts	For Nuts Size Bolts	For Bolts Diam.	For Bolts Diam.	For Nuts Size Bolts	For Nuts Size Bolts	For Nuts & Thick Nuts Size Bolts	For Bolts Diam.	NEW	OLD	OLD and NEW	OLD and NEW
	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	NEW				
5/32																No. 0 & 1
3/16																No. 2 & 3
7/32																
1/4																1/4
5/16																No. 4
11/32																No. 5 & 6
3/8																No. 8
7/16	1/4	1/4	*1/4	1/4									1/4	7/16		No. 10
1/2			5/16	5/16	1/4	1/4		1/4		5/16	5/16	5/16	5/16	5/16	1/2	No. 12 & 1/4
9/16	5/16	5/16	3/8	3/8	5/16					3/8	3/8	3/8	3/8	3/8	9/16	5/16
19/32						5/16		5/16								
5/8	3/8	3/8	7/16	7/16						7/16		7/16	7/16	7/16	5/8	3/8
11/16					3/8	3/8		3/8			7/16					
3/4	7/16	7/16	1/2	1/2	7/16					1/2	1/2	1/2	1/2	1/2	3/4	
25/32						7/16		7/16								
13/16	1/2	1/2	9/16		1/2	1/2	1/2	1/2		9/16	9/16	9/16	9/16	9/16	7/8	
7/8	9/16	9/16		9/16	9/16	9/16		9/16		5/8	5/8	5/8	5/8	5/8		
15/16			5/8	5/8												
1	5/8	5/8												3/4	1	
1 1/16					5/8	5/8	5/8	5/8		3/4						
1 1/8	3/4	3/4	3/4	3/4							3/4	3/4	3/4	7/8	1 1/8	
1 1/4					3/4	3/4	3/4	3/4		7/8					1 1/4	
1 5/16	7/8	7/8	7/8	7/8							7/8	7/8	7/8	1		
1 3/8															1 3/8	
1 7/16					7/8	7/8	7/8	7/8		1						
1 1/2	1	1	1	1							1	1	1	1 1/8	1 1/2	
1 5/8					1	1	1	1		1 1/8						
1 11/16	1 1/8	1 1/8	1 1/8	1 1/8							1 1/8	1 1/8	1 1/8	1 1/4		
1 13/16					1 1/8	1 1/8	1 1/8	1 1/8		1 1/4						
1 7/8	1 1/4	1 1/4	1 1/4	1 1/4							1 1/4	1 1/4	1 1/4			
2					1 1/4	1 1/4	1 1/4	1 1/4		1 3/8						
2 1/16	1 3/8	1 3/8	1 3/8	1 3/8							1 3/8	1 3/8	1 3/8			
2 3/16					1 3/8	1 3/8	1 3/8	1 3/8		1 1/2						
2 1/4	1 1/2	1 1/2	1 1/2	1 1/2							1 1/2	1 1/2	1 1/2			
2 3/8					1 1/2	1 1/2	1 1/2	1 1/2								
2 7/16	1 5/8	1 5/8	1 5/8	1 5/8							1 5/8	1 5/8				
2 9/16					1 5/8	1 5/8	1 5/8	1 5/8								
2 5/8	1 3/4	1 3/4	1 3/4	1 3/4							1 3/4	1 3/4				
2 3/4					1 3/4	1 3/4	1 3/4	1 3/4								
2 13/16	1 7/8	1 7/8	1 7/8	1 7/8							1 7/8	1 7/8				
2 15/16					1 7/8	1 7/8	1 7/8	1 7/8								
3	2	2	2	2							2	2				
3 1/8					2	2	2	2								
3 3/8	2 1/4	2 1/4	2 1/4	2 1/4							2 1/4	2 1/4				
3 1/2					2 1/4	2 1/4	2 1/4	2 1/4								
3 3/4	2 1/2	2 1/2	2 1/2	2 1/2							2 1/2	2 1/2				
3 7/8					2 1/2	2 1/2	2 1/2	2 1/2								
4 1/8	2 3/4	2 3/4	2 3/4	2 3/4							2 3/4	2 3/4				
4 1/4					2 3/4	2 3/4	2 3/4	2 3/4								
4 1/2	3	3	3	3							3	3				
4 5/8					3	3	3	3								
4 7/8			3 1/4													
5					3 1/4	3 1/4		3 1/4								
5 1/4			3 1/2													
5 3/8					3 1/2	3 1/2		3 1/2								
5 5/8			3 3/4													
5 3/4					3 3/4	3 3/4		3 3/4								
6			4													
6 1/8					4	4		4								

\* Square Only





## You can rely on **WILLIAMS** for **DROP FORGINGS**



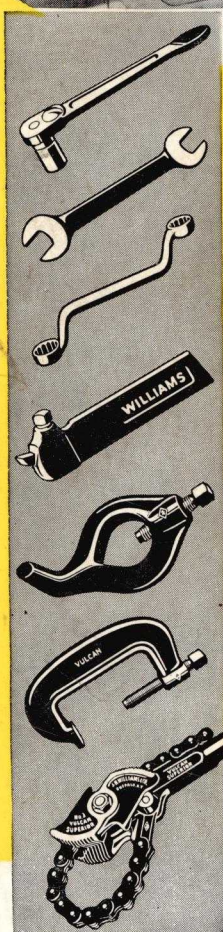
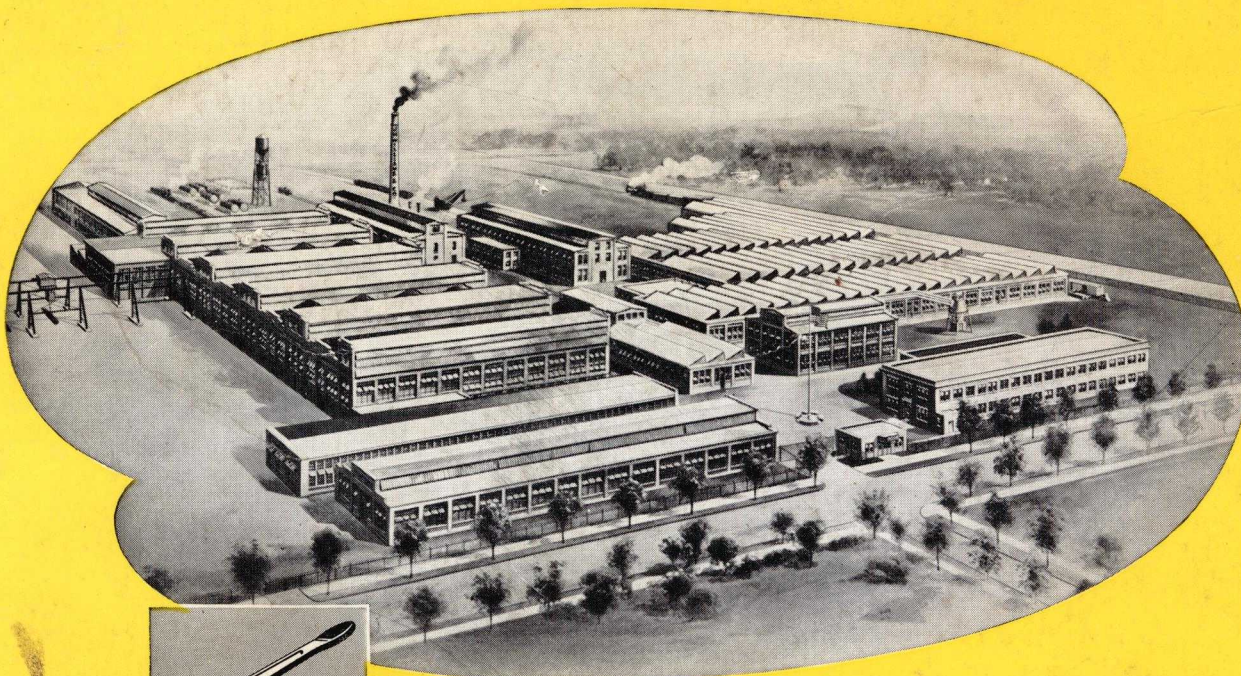
When leading concerns keep coming to WILLIAMS for custom forgings (and they have for over half a century) . . . you can be sure there are good reasons why.

### Here are a few:

- Adequate varied equipment to handle complex or simple jobs in long or short runs . . . efficiently.
- Ability to forge aluminum, brass, bronze, carbon, alloy and stainless steel, titanium and monel in most shapes and weights up to 250 lbs. (steel).
- Complete heat-treating and laboratory facilities . . . Magna flux inspection.
- Machining facilities for milling, drilling, turning and broaching . . . and complete die-sinking facilities.
- A reputation for designing, engineering and forging even the toughest jobs to a high degree of accuracy.

*A model or drawing of the part to be forged and the quantity to be produced is sufficient information on which to base an estimate. Your inquiry will receive prompt attention. For additional information write for descriptive literature A-610.*





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